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THE CINCINNATI

LANCET AND CLINIC,

A WEEKLY JOURNAL OF

MEDICINE AND SURGERY.

J. C. CULBERTSON, M.D., EDITOR.
A. B THRASHER, A.M., M.D., ASST. EDITOR.

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NEW SERIES, VOL. XII. WHOLE VOLUME, LI.

CINCINNATI:
PUBLISHED BY DR. J. C. CULBERTSON, 199 W. 7TH ST.
1884.

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THE
CINCINNATI LANCET AND CLINIC:

A WEEKLY JOURNAL OF
MEDICINE AND SURGERY.

JANUARY—JUNE, 1884.

NEW SERIES, VOL. XII. WHOLE VOLUME, LI.

Society Reports.

ACADEMY OF MEDICINE.

Meeting of Dec. 3, 1883.

W. W. SEELY, M.D., *Pres't in the chair.* W. H. WENNING, M.D., *Secretary.*

REPORTS OF CASES.

Punctured Wounds of the Skull.

DR. P. S. CONNER in introducing this subject for discussion said he was well aware that it might be looked upon by many as rather trite, and yet the gravity of these sometimes apparently slight injuries renders it of great importance. The treatment of simple punctured wounds of the cranium is still a matter of discussion, from the fact that it is frequently difficult to decide whether the injury received is one of the skull alone or whether the structures underneath, the brain and its coverings, are also involved. If the injury be of a definite character the question arises whether we are justified in interfering actively in order to prevent the development of dangerous complications, or whether it is more prudent to wait until further symptoms arise. As regards active interference we have the advocates of the extreme use of the trephine from Ambroise Paré to Pott and the expounders of the doctrine, as Stromeyer, that the trephine ought not to be used in any case. Stromeyer claims that although the injury inflicted may be of the utmost gravity, the trephining of the skull will but increase the dangerous symptoms.

The speaker alluded not to the general fractures of the skull, but to the punctured form. No one would fail to recognize an injury where the skull is driven in, but in a punctured wound the gravity is often overlooked, and yet without any apparently severe injury externally such an injury may perhaps prove most dangerous.

The skull may be punctured by the blade of a knife, a bullet, a piece of glass, a sharp instrument as a pick, and various other substances. The depth of penetration may be out of all proportion to the extent laterally, and the symptoms may be masked for hours or days. The injury is probably greater to the internal than the external table of the skull, or a diploic injury may be followed by inflammation of the veins or pyemia, but usually the internal table is broken off and the meninges or the encephalic vessels are pierced. Hemorrhage and inflammation may thus result and sometimes the brain substance itself may be injured, the penetration extending perhaps even to the opening of the lateral ventricles. With all these serious consequences a diagnosis is frequently not made.

The speaker remembered one instance where death resulted in 48 hours, and the wound in the skull had been overlooked altogether. Knowing the liability of suppuration of wounds of the external and internal tables of the skull we can understand the necessity for drainage so that a steady outflow is necessary for the safety of the individual. Death is often to be attributed to a punctured fracture of the skull and it is therefore desirable to call attention to the danger of injuries about the head, even if they are simple scalpwounds, to decide whether the trephine should be used or not.

The speaker could not see where the danger lies *per se* in the use of the trephine; it is not followed by a great mortality and the latest examinations made by Walsham of London, show that there is but little danger. The trephine simply converts a wound with a ragged edge into a smooth one, and the removal of a button of bone frequently prevents inflammation of the meninges or a localized inflammation of the cerebral mass, or an abscess. A wound of the skull may cause death without a warning, setting in either with convulsions or coma. In order to show how slight an injury may take the life of an individual the speaker presented a specimen obtained 12 years ago, where a man was cut in a fight on the head, the injury being however scarcely perceptible and yet death occurred in 24 hours. At the post-mortem examination a small scalp wound was found, underneath which there was an extravasation of blood; on reflecting the scalp it was discovered that the skull had been pierced with a small pocket knife severing a branch of the middle meningeal artery, the cut extending to the depth of half an inch. This man might have been struck a hundred times about the head in other situations and yet he might have escaped much injury. The injury was not recognized during life; if it had been recognized the trephine might have saved this man's life, as the hemorrhage could readily have been stopped with a little white wax. Another man was struck in the head with an ice-pick. Paralysis of the right upper extremity, but not of the face, resulted, and two weeks afterwards when Dr. Conner first saw him a hardness was to be felt at the seat of the injury as if the pick had been broken off. The doctor at once removed a button of bone with the trephine and came upon the abscess cavity which he evacuated, but the man died in two or three days. The cavity was not very large; it was situated at the superior portion of the first frontal convolution. The symptoms following the injury in this situation ought not to have been produced according to our present understanding of localization of the brain. If the crown of the trephine had been applied in this case immediately after the injury it would have permitted an outflow of fluids, and prevented these serious symptoms.

The next specimen obtained from Dr. E. W. Walker was one of singular interest. A boy being provoked at a man, picked up a piece of a broken pane of window glass and threw it at the latter, striking him in the head. The man went to bed, but was found dead the next morning. An examination showed a piece of the glass sticking fast in the skull. Had this piece been removed immediately there might have been a chance of life. Death resulted from extravasation of blood. Subcranial extravasation of blood is not necessarily fatal; the speaker had himself saved a patient's life by trephining and removing the clot.

A practical lesson to be drawn from these illustrations is, that a careful examination ought to be made of every head where a punctured fracture is suspected, and if such be found it is the wisest course to apply the trephine. There is no more danger in removing a button of bone from the head than from the tibia. The special danger of these injuries lies in lesions underneath the skull. It is not necessary to carry out all the extreme precaution for antisepsis, yet with this method the results have been still better than by any other method. The speaker had seen quite a number of cases where death would have resulted if the treatment had not been active.

DISCUSSION.

Dr. Whittaker remarked that formerly it was difficult to make a diagnosis between abscess and softening of the brain, but since we know that softening is due to a thrombus or embolus we may separate it from an abscess, in which pus is present. The question arises, is it necessary to have an opening to have pus? We find pus in the bottom of the brain in cerebro-spinal meningitis and it is mysterious how it could get there without air. Many modern surgeons think that we cannot have pus without a micrococcus and explain the presence of pus only by this theory. Another interesting point is the fact that a lesion is not always at the site of injury, but may arise at some distance. The speaker saw a case this evenings where an individual was struck a year ago with a beer glass over the right posterior hemisphere. He had absolute loss of speech—though not of an anæmic character; the aphasia was ataxic. Was this an abscess of the brain or hemorrhage with local softening? Possibly some of the fibres establishing a connection between the ideational centre and the medulla oblongata were cut off.

Dr. Zenner thought that a difference of opinion will still obtain as to the proper treatment of these cases, because we are unable to tell from external appearances the degree of injury within the skull. When certain spicula of bone press upon the dura mater or the brain substance, there is but little difference of opinion what is to be done, for we know that the pressure of these bodies do some harm. But in a punctured fracture of the skull we do not know the amount of injury, and we must decide whether we must interfere or whether by such interference we do not increase the damage already inflicted. It is very doubtful if the trephine is so entirely devoid of danger. It must be remembered that by its use we always inflict an injury as great perhaps as the original injury. There is always some danger of striking the dura mater. The question therefore is, does the trephine injure the patient more than the original wound? If so, the trephine ought not to be used. On the other hand, the presence of spicula of bone does not necessarily always produce serious results, for there are plenty of reports to show that penetrating wounds of the skull have occurred from which the patients have had no complications for months afterwards and they were apparently well; for example, the numerous instances of a bullet entering the skull without causing any subsequent damage. Not all surgeons, therefore, will agree with some of the previous speakers as regards the universal resort to operative measures in these cases. Küster reported some cases of this kind where some were trephined and others not with just as good result, and Langenbeck reports five cases treated only on the expectant method, without operation, and all recovered. These cases show that an injury to the brain does not always produce necessarily serious harm, whilst the trephine at times does some damage. There ought to be something more to justify an operation than the mere presence of a penetrating wound in the skull. As the chief danger usually lies in the presence of an abscess it is important to know if this is forming or not. An abscess is seldom present without fever and the ordinary symptoms of suppuration. As a rule it may be diagnosticated by a maximum of constitutional and a minimum of local cerebral symptoms, that is, another lesion of the same extent though producing fewer local manifestations will be followed by less marked constitutional disturbance. A hemorrhage or a tumor occupying the same space as an abscess would probably cause severer local symptoms because it causes a pressure, followed by the symptoms of pressure, whereas an abscess is attended with the symptoms of destruction of that part of the brain alone.

It is often difficult to understand whether an abscess has any outward connection with the air or not. For example an abscess of the ear may be at some distance from the temporal, and though there is no apparent communication, a microscopical examination will show that there is some connection. It is altogether probable that there is some direct anatomical connection that has not been discovered.

Dr. Stewart remarked that the one question ought to be always kept in view: Can the individual be helped or not? We must decide whether an operation will prove more injurious than the help it can give, or whether it ought under any circumstances to be performed. One of the gentlemen objected to the use of the trephine because it might injure the dura mater; a smilar objection might be raised against any operation. It must be our endeavor *not* to injure any important structure, and in this lies the skill of the operator, a skill which can only be acquired by many operations. Until a few years ago our knowledge of the brain was very limited, and we were then loathe to interfere to any extent with its structure; but recently such great advances in the study of this important organ have been made that we are not now in the same position in regard to it as formerly. Just as we now open the abdominal cavity with much less hesitancy than in past years we are also more fearless in operating upon the brain; since we can localize its important or vital points.

We must conclude then: if there is any chance for affording some help to the injured person by opening the skull we are certainly justified in resorting to the trephine. If an individual be doomed to die from an injury anyway we cannot increase the injury by an operation.

Dr. Conner, in concluding the discussion, said that he would first of all make a slight correction of one of Dr. Ransohoff's remarks, in regard to the cause of death in the ice-pick case. It is true in this case death was due to pyemia, but this had already set in at the time of operation, on account of the suppuration in the cerebral abscess. A very slight injury to the skull, even a simple contusion, may be followed by suppuration so that abscesses may occur without the skull bone having been broken. A man got up at night and in the dark endeavored to pass through the doorway. In order to avoid striking the door he extended both of his arms but unfortunately held them out on each side of the door, striking against the edge with his forehead. Three months afterwards this man died of cerebral abscess.

One point of interest was alluded to by Dr. Zenner, the occasional harmlessness of a gunshot injury to the brain. The speaker had occasion in preparing an article on this subject some time ago to look up the authorities and he was struck with the many instances of recovery from a gunshot wound in the brain on record. There is this difference between a gunshot and a pick wound that the ball in its course is apt to leave a sufficiently large opening behind it for drainage. The speaker was rather sceptical that when a ball strikes a piece of bone there is no injury except that made by the surgeon in the operation. If he were thus injured he would rather have the pieces removed than left in the brain. We are not now so far from a decision when to use the trephine as a good while ago. The mere cutting of bone does but little damage, and when a conical crown is used the dura mater can be sufficiently protected. There is not so much danger from injury to the dura mater as from leptomeningitis later; and this is prevented by the removal of the irritating bodies and the securance of free drainage. To show how much injury the brain will tolerate the speaker mentioned the case of a convict who tried to injure himself by driving pieces of wire into his head and yet without doing any damage. Certainly these are rare cases, but they show that we need have no exaggerated fear of injuring the dura mater when the constant injury caused by the presence of bone is so much more dangerous.

ERRATA.

SANTA BARBARA, CAL., Dec. 15, 1883.
Editor Lancet and Clinic;

DEAR SIR:—In my communication of Nov. 6th, on typho-malarial fever, I am made to say "the symptoms most marked are three or four days of *malaria*," &c., &c. It should have been "three or four days of *malaise*, &c. CHARLES ANDERSON.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of December 4th, 1883.

The President, DR. WM. J. MORTON, in the Chair.

DR. GEO. W. JACOBI read a paper upon *Neurotic Affections Accompanying Joint Affections.*

The history of the subject goes back as far as Hippocrates, by whom it is mentioned, John Hunter was the next to take any note of it, and it is with him that originated the sympathetic theory; Halgaine, 1826, and within the last ten years Weir Mitchell, Duchenne, Verneuil, Sir James Paget, and Charcot and his pupils, comprise the list of names that have cast light upon the subject. The experiments of Valtat show conclusively that as a result of injury to the articular or even to the periarticular tissue produced by irritant injections, the muscles of the entire limb, but more particularly the extensors of the joint, become atrophied. The result of the experiment given in the paper, as shown by the autopsy, is that the extremity which was experimented upon lost 80 grammes in weight in twelve days, and that each and every muscle separately weighed less than its corresponding fellow of the left side.

The affections which most frequently follow joint disorders are paralysis and atrophy of the muscles and hyperplasia of the subcutaneous connective tissues. Not uncommon are anesthesia, hyperesthesia, analgesia, hyperalgesia and neuralgias.

Three groups of nerve functions are implicated, motility, sensation and nutrition. The symptoms are, after the joint-lesion, a change in the appearance of the limb. The extensor muscles are generally the ones involved.

There is a change in the electrical reaction of the muscles, their contractile power is diminished and finally lost. There is no reaction of nerve degeneration, no reversion of the normal contraction formula. This is also most noticeable in the extensors. The paralysis may appear as early as twenty-four hours after the accident; may also appear very late. The hypertrophy of subcutaneous connective tissue seems to stand in a direct relation to the atrophy of the muscular substance. The atrophy is ascending and progressive.

Contracture is rare. The disorders of sensation are early symptoms and differential diagnosis between these affections and progressive muscular atrophy may become difficult.

The conclusions which I am entitled to draw from the notes of thirty cases are, first: that in all cases, except those involving the ankle or wrist-joint, the muscles affected were the extensors of the diseased articulation. Second: that in those cases which involve the ankle or wrist-joint, the affection is descending instead of ascending, and that the extensors are not affected to any greater extent than the other muscles. Third: that in cases of arthritis of any of the joints of the fingers the inter-ossei muscles suffered first and most.

The cases which present particular interest are the following:

CASE 1. Mrs. L., age 24; while walking slipped and fell striking her knee. The joint rapidly increased in size and was very painful. The following day it was very much enlarged, the patella pushed forward, and fluctuation was distinctly noticeable. The movement of flexion of the leg upon the thigh was easily executed, but that of extension was connected with great difficulty. The patient could only by the strongest effort produce any contraction of the triceps cruris. As the effusion became absorbed the paralysis increased and at the end of three weeks it was impossible for her to extend the leg at all. Atrophy was now well marked, showing a difference of three centimetres in favor of the healthy limb. The gluteal muscles were also involved. The electro-contractility of the muscles were decreased in both currents.

CASE 2. This case shows how soon after the injury paralysis and atrophy may ensue.

Patient, a laborer, age 34, was struck upon the left knee on a Friday. He applied ice to the joint. The swelling went down. I saw him upon the following Monday, seventy-two hours after the injury, and then a distinct paralysis of the triceps cruris was noticeable, and atrophy was distinguishable upon the following Friday.

CASE 3. By this case may be seen how entirely disproportionate the effect may be to the cause.

Patient, L. H., merchant, age 30; while walking his left ankle-joint turned, the outer margin resting upon the ground. Notwithstanding severe pain he continued his walk and used the joint for several hours. When he examined his foot he did not notice any change in the appearance, but it was painful on pressure. After two months he noticed a slight weakness in the injured leg, which was particularly observable upon going down stairs. Four months after the accident I saw him. His condition was then as follows: His foot hangs with the toes pointing downward and can not be brought to a right angle with the leg. He walks upon his toes and does not bring his heel to the ground. The toes may be easily raised, but they fall back again by their own weight. The interossei of the foot are atrophied. The peroneal muscles and the muscles of the thigh are also involved. The gluteal-maximus is evidently considerably atrophied, for a large depression takes the place of its former prominence. Added to this severe neuralgia of the sciatic and peroneal nerves rendered a condition almost unendurable.

The pathogenesis of the affection is still a disputed one. The sympathetic of Hunter, the pressure theory of various writers, the theory of functional inertia, then that of Vulpian, which is reflex, and finally those of Decosse and Charcot are all incapable of satisfactorily explaining all of the cases.

The treatment, in order to be successful, must be varied and adapted to each special case. The chief agents at our disposal are electricity, massage, mechanotherapeutic and hydrotherapeutic, in the form of hot and cold douches. Massage in very many cases seems to deserve preference to the electrical currents. The effects produceable by massage are:

1. The diffusion of any articular effusion. 2. The comminution of vegetation. 3. The loosening and destruction of adhesion. 4. Increase of circulation. 5. Stimulation of muscular fibres.

In fact, all the agents above mentioned seem to act similarly by stimulating the nutrition of the affected muscles, by increasing the flow of blood to the parts and perhaps thus causing a reflex excitability of the motor tracts.

DISCUSSION.

DR. CHAS. F. TAYLOR said: This is a subject with which I have considerable familiarity, as all persons who are extensively engaged in the treatment of joint affections must have, but it is too large to even touch upon, in many of its aspects, in the limited time at my disposal to-night, even if I had prepared myself for such a discussion, by having previous intimation of the direction it would take. I should prefer to have the subject arranged before speaking of it, especially as I shall be obliged to differ from the essayist, both as to the pathology and treatment, of the neurotic disturbances attending or following joint diseases of the character which he has set forth in the paper. In regard to the pathogenesis, I do not think it is necessary to adopt any peculiar theory, or to assume that even any special deviation from the ordinary course of nerve function takes place, in order to account for all the facts observed in these cases. The difference is one of degree only. A person is attacked with inflammation of the knee-joint, for instance, this is rapidly followed by diminished size of the muscles controlling the action of that joint, with diminished and sometimes even with entire loss of muscular action. But loss of muscular action is by no means evidence of loss of muscular power. The nerve centres are unquestionably affected; but, most of all, the cerebral nerve centres are the seat of the greatest disturbances. No theory can be adequate which leaves the cerebral nerve centres out of the account, and the consequent mental element which plays, in my opinion, so important a part in these cases. The simple loss of muscular action, consequent on an attack of inflammation of the knee-joint, is sufficient to account for an immediate diminution of the size of the muscles whose freedom is curtailed. This is the certain result from mechanical restraint alone. But if, besides the mechanical restraint of position or retaining apparatus, there is added the mental restraint of fear, the difference in the rate and amount of muscular atrophy is enormously increased. Mental restraint acts similarly to an Esmarch's bandage; it sqeezes the very life out of a muscle. As a very simple proof of the remarkable effect of mental restraint in causing muscular atrophy, let me mention those frequent instances accompanying disease of the hip-joint. These cases often apply with limbs attenuated to the last degree. That a large portion of the muscular attenuation, accompanying somewhat long standing hip-joint disease, is due to the mental restraint of motion, which might cause suffering, is proven by the fact that the application of proper mechanical protection, by which the mind is relieved of the fear of pain, is followed by immediate increase of muscular growth. This is so common and well known fact that advantage is constantly taken of it, in the management of cases. My observation of the effects on the muscles of joint diseases must amount to some thousands of cases, and I never saw a case of atrophy which, in my opinion, could not be perfectly explained by non-use and mental restraint.

In regard to the therapeutics of muscular atrophy and loss of action following joint disease, I fear I must differ from the essayist quite as widely as in its pathogenesis. So far as the muscular wasting has been caused by non-use, during the progress of the arthritis, it is sufficient to set them to work again, after the inflammation has subsided. And, I may say, in passing, that muscles stubbornly refuse to act, or if forced to act, they as stubbornly refuse to develop during the progress of an arthritis. You must wait until the joint is well before you can expect the muscles to act readily enough, after there is no longer any joint affection, except for the restraint which is often maintained for a long time by mental impressions formed during the progress of the arthritis. It is astonishing to notice how deep and lasting the impressions made on the cerebral nerve centres may sometimes be. Whatever the treatment may be, I do not believe it can be of any direct service so long as there continues a mental restraint over the muscles; and it is equally true that whatever will remove such mental restraint will cure the atrophy. So important do we, in our practice, consider the mental influence over the muscles, attending and following joint diseases, that we take special pains to get and to keep the direction of that influence, for the very purpose of hastening the recovery of the muscular power after curing the joint disease. But, the object of treatment should be to divert the mind from the affected member rather than to keep up attention to it by local treatment. It is true that massage will sometimes seem to do much good to the atrophied muscles; but this is apparent and indirect rather than real and direct.

Massage has elements of mental diversion and control which may be properly and usefully employed. But, with a large experience in its use, I am free to say that I think it is very much overestimated as a direct therapeutic agency. Its direct effect on the muscles is very slight, and what there is, is not exercise. Exercise involves nerve action as the initial force. Massage merely assumes to promote the forward displacement of a certain small portion of the tissue fluids. But such propulsion of the fluids contained in the soft parts, even if effected, is not exercise nor a rational substitute for exercise. Only by the legitimate use of the nerve centres, especially of the cerebral nerve centres, can there be any action deserving the name of exercise. To regulate such nerve centre function, when disturbed by the strong impressions made by joint inflammation, is the indication presented in the cases under discussion. In most cases time alone is sufficient. In others, any means which effects a diversion of attention, whether done to the affected member or at a distance from it (which is the safer plan), will effect a cure. Incidentally, massage, electricity, the manipulations of the so-called "bone-setters," as well as the "animal magnetism" of the more arrant quacks, all appear to produce wonderful results in a certain number of cases. The results are real, but are not produced through any direct effect on the parts, but through the incidental impressions made on the cerebral nerve centres; that is, on the mind. The worst of it is that a large number of these cases in which direct treatment to the part affected by the mental restraint, tends to increase the mental impression, and to indefinitely postpone that unrestrained action of the muscles by which alone they can regain their power. The most difficult cases within my experience have been those who have had their attention to the affected member kept up by too much local treatment, after the joint inflammation had passed away.

Dr. L. Weber has seen some cases of muscular atrophy following joint disease, and remembers one in particular which may be of interest to the Society.

Mr. J. W., age 32, merchant, of nervous temperament, but strong and active, made a tour through Swizerland in the summer of 1870. Being a good pedestrian he traveled mostly on foot, but, after a severe Alpine tramp in the upper Engadin, he was taken with synovitis of the right knee-joint. When the effusion had passed away the extensor muscle above the knee had wasted considerably; the patient was unable to walk, and reached New York with difficulty. On examination the joint was found to be in good order again, but the atrophy of extensor muscle was still very marked, and the patient, by the support of a cane, walked, but not without difficulty. A four weeks' course of faridization made no appreciable change, and although he was assured that he would regain the use of his limb completely in the course of time, he was not satisfied, but grew despondent and finally left for Europe to consult Prof. Erb. The latter told him that the paralysis was not in his limb, but in his mind, that he should go about and exercise and live well and he would soon again regain the full use of his muscles. He followed the Doctor's advice and returned to New York early in the spring of 1880 in perfect health. As to the pathogenesis of the disorder, the Doctor believes that the muscular paresis and atrophy in the case reported and in others of a like manner, is of reflex origin, and that functional disturbances of motor centres in the brain, and not in the spine, is probably the cause of the trouble.

Of massage and its effect in such cases, as reported by the author of the paper, he has no personal experience, but has seen excellent results from its proper application in sub-acute joint diseases, muscular rheumatism and bad sprains.

Dr. E. C. Wendt said, that the paper had brought out several points of interest, especially as regarded etiology, symptoms and the hopefulness of treatment. He was sorry to find, however, that the reader had nothing new to offer in explanation of the pathogenesis of these conditions. Admitting the correctness of Sappey's views concerning the richness in nerves of the articular and periarticular tissues, it certainly seems thoroughly puzzling why acute polyarticular rheumatism was not more frequently followed by just such accidents as Dr. Jacoby had described. Again those more chronic joint manifestations dependent upon the gouty diathesis, where profound structural alterations were frequently observed only quite exceptionally led to atrophy, paralysis and to other neurotic disturbances alluded to. Upon these points he was sorry to find that the paper under discussion left us as much in the dark as we had been before.

With regard to massage, although his experience was limited, it was yet sufficient to fully convince him of its utility in certain cases. Of course, there is massage, and massage; but when properly and systematically applied it is useless to try now to dispute its beneficial action. The combined experience of a large number of competent men placed its usefulness beyond the pale of doubt.

DR. HEITZMAN said, when I was a student in Vienna, a girl, 25 years of age, fell down stairs and acquired serous genitis, after which she was paralyzed and confined to her bed for five years. She was sent to a water-cure. A physician there urged her to walk in order to enable him to judge about the degree of the disease, but she began crying and said she was unable. She went home in despair, her sister asked her to make at least an effort to walk. After considerable urging she got out of bed and walked. This illustrates that mental influences have much to do with these affections.

I would call the attention of Dr. Jacoby to an article by Dr. Nicoladoni, published in 1871, in the *Wien. Med. Jahrbücher.* I have seen his specimens with the nerves brought out by the use of chloride of gold, and from my observation, I am convinced that these terminal nerve fibres are not stable and unchangeable formations; but on the contrary, nerve fibres may form at any time of life from the living matter present in all tissues.

I am thoroughly convinced that nerves may disappear and appear, according to certain physiological necessities, certain physical conditions of the body, such as for instance are results of exercise.

In an inflammation of a joint, the synovial and capsular wall being the seat of pathological changes, of the breaking down of the tissue certain nerve fibres of the sensitive sphere will be within its range, and we should know that a certain number of them perish altogether.

DR. JACOBY, to-night, did not give a theory of his own, but he quoted various authors. It certainly was the best plan for him to persue, as so very little is known even in our day about nervous action.

We know that by the inflammatory destruction of a number of sensitive nerve fibres in the capsule of the joint, at once, three spheres are involved: the motor, for there is paresis or paralysis; the sensory, for there is pain, and the vaso-motor or trophic, for there is emaciation.

So far as my insight goes, I am convinced that the living matter in a vehicular arrangement produces the gray matter and all essential portions of nerves, including the axis-cylinder. This fact is thoroughly acknowledged by Professor Stricker, at Vienna.

There may be a loss of living matter of certain nerves, in consequence of inflammation and loss of contractility, with impaired conduction towards the center. We then have comparative rest a limited portion of the spinal cord, or even the brain, for the reticulum of living matter is set at rest for a time without there being a material change in the living matter of the gray substance and ganglionic elements.

If massage will re-establish the activity of muscles, we are prepared to understand that the field in the spinal cord before out of action may be brought in motion, and the motion communicated at once to the motor ganglia and all the symathetic centers which are situated along the spinal cord, as physiologists agree upon.

The nervous action may, for a certain time, be impaired or dulled, because the reticulum of living matter is in comparative rest, lacking an impulse from without. So soon as such an impulse is carried to the resting portion, either by mental action, energetic will, or by mechanical shock, such as is done in massage, or in any other way, the contraction of the living reticulum is induced and the normal condition re-established. Neither the assumption of centripetal neuritis, nor the theory of reflex-action can explain the phenomena observed after the inflammation of articulation and their sometimes speedy cure.

DR. HENRY LING TAYLOR said, I can contribute a case showing the beneficial effect of the use of the body battery. A woman under the care of Dr. J. West Rosevelt, at the Rosevelt Hospital Dispensary, of middle age and neurotic personal and family history, presented among other symptoms that of a prickling sensation down right arm and in right hand. There was no joint trouble. Dr. Rosevelt and myself regarded it as one of the neurotic disturbances incident to a person of her temperament. The body battery was tried for its psychical effect, and the woman returned in two days with the abnormal sensations gone. The symptoms had lasted a considerable time. The same treatment was applied to the hand without effect during the week, which she has since been under observation.

I regard the result in this case as entirely due to mental influence.

Before concluding my remarks I wish to speak of an interesting class of cases alluded to by Dr. Gibney, the pseudarthroses. We have in these cases nearly or quite all the symptoms enumerated by Dr. Jacoby in his paper, atrophy, hyperæsthesis or anæsthesis, etc., following mental restraint, there being no affections of the joints. I regard the trouble as functional and seated mainly in the brain, and not in the spinal cord as Dr. Gibney believes, if I understand him. Almost anything calculated to make a profound impression on the higher nerve centers will often prove curative in these cases. This is in my opinion one of the most important effects of massage.

I have in mind three cases of ankle trouble following sprains, seen three to five months after injury. The acute symptoms had subsided, but pain, tenderness, and such impaired functions as to cause limping, persisted. These patients had been treated with supports, etc., for several months. Physical examination showed no local trouble not readily explained by mental inhibition. There had been recovery from the sprain without a corresponding re-adjustment of the nerve centers to the condition.

The patients were perfectly and rapidly cured by purely psychical treatment. I do not doubt that massage often accomplishes the same result through its psychical effects in similar cases, but it is an empirical method as generally employed.

Dr. Garrigus said, what little experience I have had with massage is in its favor, but that is almost nothing compared with that of Dr. Taylor. Nevertheless I have used massage for ten or twelve years; I became acquainted with it when quite new and have found it most excellent for secondary conditions, and for treatment to which Dr. Jacoby alludes.

Dr. Morton said, I will say a few words upon the subject of the continuous body battery and its use; the battery consists of a simple pair of elements.

I well recollect a case in which I used this with good effect: a gentleman came to me with chronic arthritis, associated with it was paralysis of the extensor group of muscles; the foot was dropped and the toe dragged; he said no form of electricity that he had tried had done him any good. I told him that I would give him a battery which he could wear all the time, which consisted of pieces of silver and zinc connected by copper wire. The zinc was shifted about upon different parts of the body, a constant current was kept up which could be tested at any time with ordinary litmus paper. While under alkaline treatment the battery worked with better results, the excretions being saline.

This battery is also useful in the treatment of chronic ulcers, the granulations formed will be found much more healthy, it is also beneficial in chronic eczema.

This much he would add to the practical part of the paper, since the main question after all was treatment.

Dr. Gibney said, that at times it is very difficult to determine whether the atrophy precedes or follows joint disease.

It is his opinion that it is more frequently the accompaniment of epiphyseal disease than joint disease proper, and he wished to emphasize the fact, for a fact it was according to his observations, that the majority of grave lesions about joints in childhood was epiphyseal. In other words a chronic epiphysitis.

Sinovial disease he believed to be rare. If one examined a hip for instance, said to be the subject of disease, marked atrophy is usually found in the thigh and calf muscles, long before any pronounced joint symptoms are presented.

The atrophy, he further stated, is confined to the muscles and not the bony tissue. For it is a rule that in chronic epiphysitis, about the knee for instance, that the epiphysis is actually elongated. He, in common with many other orthopoedists, have long since regarded acute atrophy as one of the most constant signs of chronic articular ostitis, and he believed the atrophy to be purely reflex and not the result of disease, or of the pressure from apparatus or bandages.

One argument brought against mechanical treatment, viz: that atrophy was produced, is fallacious. The clinical history of these bone lesions proves this conclusively.

He was not sure whether chronic synovitis induced atrophy, but he was very positive in stating that in acute synovitis atrophy was rather the exception than the rule.

A class of cases presented certain neurosis which were very valuable in excluding bone or joint disease.

They are known as spinal pseudo-arthropthy, and known, furthermore as neurosis of the joint; neuro-mimesis, hysterical joints, brodie-joints, etc. The neurosis referred to were neuralgia, hyperæsthesia, anæsthesia, but rarely any atrophy. He believed that they had their origin in the spinal cord and the meninges, and the readiness with which they responded to spinal treatment confirmed him in his belief.

Furthermore, the neuralgia of chronic articular ostitis of the hip is well known, and the knee-branch of the obturator never is effected early, and very often late in the disease, although this is denied by some writers and especially a recent writer, Dr. Clippingdale.

In some of the most advanced cases of caries of the hip, this obdurator neuralgia, is very distressing. Very frequently the sciatic nerve is involved, and in some cases, one especially narrated in a young lady with old disease of the hip, the sciatic was most distressing and yielded very poorly to drugs and electricity.

The question of paralysis and degenerative nerve changes being sequences of chronic arthritis was one about which he did not feel fully convinced.

He referred to a case of chronic arthritis of the knee, in an old woman who had paralysis of most of the musles of the thigh and leg, and it was thought by some who saw the case, that the paralysis was dependent on the joint lesions, but the proof was not by any means conclusive.

Dr. Jacoby said, the first point to which I desire to reply is that brought forward by Dr. Taylor. He said that he believed these nervous changes, particularly the paralyisis and atrophy were produced by psychical or mental influence, and that they might be relieved by attention to this point. I am at considerable variance with him as regards the effect that mental influence has in the production of these disturbances. I, for my part cannot understand how mental uneasiness can produce atrophy which is easily diagnosed by the tap of a certain muscle, and that, in the short time of three days. ' But, as the doctor has promised us a paper upon this subject, perhaps that will succeed in convincing me.

As regards the opposition which the massage treatment has received, I expected it would receive more. Massage has especially in the United States, been very much in the hands of non-professional men, and consequently has been greatly abused and misapplied, but I hardly think there can be any question as its efficiency, in suitable cases and when properly applied.

The theory advanced by Dr. Heitzman is very similar to that of Professor Charcot, who, as I mentioned in the paper, believes that certain parts of the cord is in a state of inertia or stupor.

Correspondence.

QUESTIONS UPON THE SPINAL CORD.

Editors Lancet and Clinic:

In these days when the journals contain so many lists of questions, and so much attention is given to the examination of students, the following may be of interest. They were presented to the class at Starling College in a quiz preceding one of my lectures upon the spinal cord in the winter of 1877. They were answered in a satisfactory manner by the class. I came across them today accidentally in moving some old papers.

1. The spinal cord has a double relation, as an independent center. (2), As a conducting medium.

How do you prove this?

2. Has the spinal cord memory?

3. What is Romberg's law of isolated conditions? of radiation?

4. If one whole lateral half of the cord be cut, i. e., one anterior, one lateral, and one posterior column, what effect will result?

5. If we pass the thin blade of a knife through the commissure and divide it, i. e., pass it from the anterior median fissure to the posterior and divide all the fibres that cross from one lateral half to the other, what will be the result?

6. The function of the anterior columns is to conduct voluntary motor impressions, explain how they also manifest sensibility, and from whence it proceeds?

7. Through what part of the cord are

sensory impressions conducted to the brain?

8. What effect is produced by cutting the posterior columns of the cord? (All between posterior roots).

9. In a case presented the day of my last lecture, there is loss of sensibility in the left lower extremity, but no loss of motor power; where would you locate the seat of the disease?

10. If paralysis existed of an arm or leg, how would you determine that the seat of disease was not in the brain?

11. In a patient wounded by a sword which entered the upper part of the right side of the neck there was incomplete paralysis of motion on the same side and loss of sensibility upon the other, what injury did the spinal cord receive?

D. A. Morse, M. D.

Oxford Retreat, Oxford, O., Jan. 1, '84.

THE PRETENDED MUTE AGAIN.

Springfield, O., Jan. 4, 1884.

Eds. Lancet and Clinic:

Dear Sir:—A pretended mute stole a Loring Opthalmascope from my office last Monday, pretending to be an agent for medical journals. I understand he is victimizing doctors all over the country. I am told that you have published him as a fraud. Do you know his name or home, or whether he is in fact a mute or not? I did not miss the instrument until three hours later and he had escaped. It was one of the best $40 instruments, (J. Reynder's make) and if he could be found with it or having offerred it for sale, would send him up. Yours truly, T. F. Bliss, M.D.

[The medical profession will give the above individual a wide berth. He neither has or ever had any agency as a representative of The Obstetric Gazette or Lancet and Clinic.]—Eds.

Married.—Dr. George Fackler was married, Jan. 2nd, to Miss Von Seggern, a sister of Mrs. Dr. Gustav Zinke. We congratulate Dr. F. on this important step, believing as we do, that all doctors should form that kind of a partnership.

Academy of Medicine.—The Academy will resume its meetings next Monday, Jan. 7th, 1884, when the President, Dr. Seely, will make some remarks on "Ocular Therapeutics."

THE CINCINNATI
LANCET AND CLINIC
A Weekly Journal of
MEDICINE AND SURGERY,
Issued every Saturday.

Terms, $3.50 per annum in advance.

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DR. J. C. CULBERTSON,
Editor and Publisher,
281 W. 7th Street, Cincinnati, Ohio.

Subscribers to the Lancet and Clinic who have not already remitted their subscription will confer a favor on the publisher by promptly doing so

Cincinnati, January 5, 1884.

The Week.

Original Research in Sanitary Science.—The following interesting circular is issued by The Worshipful Company of Grocers, London,—in regard to the First Quadrennial Discovery-Prize of £1,000, 1883—1886.

Subject to the conditions of the Company's scheme, the Court now announces, as the matter of completion for the Prize, the following Problem:—

"*To discover a method by which the Vaccine Contagium may be cultivated apart from the animal body, in some medium or media not otherwise zymotic:—the method to be such that the Contagium may by means of it be multiplied to an indefinite extent in successive generations, and that the product after any number of such generations shall (so far as can within the time be tested) prove itself of identical potency with standard Vaccine Lymph.*"

The prize is open to universal competition, British and Foreign.

Competitors for the Prize must submit their respective Treatises on or before the 31st of December, 1886; and the award will be made as soon afterwards as the circumstances of the competition shall permit, not later than the month of May, 1887.

In relation to the Discovery-Prize, as in relation to other parts of the Company's Scheme in aid of Sanitary Science, the Court acts with the advice of a scientific

Committee, which at present consists of the following members—John Simon, C. B., F.R.S., John Tyndall, F.R.S., John Burdon Sanderson, M.D., F.R.S., and George Buchanan, M.D., F.R.S.

All communications on the subject are to be addressed to the Clerk of the Grocers' Company, Grocers' Hall, London, E.C.

The following are the conditions of candidature and award:

1. The Quadrennial Discovery-Prize of £1,000 is intended to reward original investigations which shall have resulted in important additions to exact knowledge in particular, previously defined, sections of sanitary subject-matter.

2. During the pleasure of the Court, the Court will, once in four years, propose some subject for investigation; and a period of at least three and a half years will on each occasion be allowed for the investigation of the subject that has been proposed.

3. In determining, on each occasion, what particular subject shall be proposed for the prize, careful regard will be had to all the scientific circumstances of the time; both as to the urgency of existing needs for particular kinds of knowledge, and as to the expectations which may resonably be held that discovery in the needed kinds of knowledge can be made within the allowed period.

4. The Discovery-Prize will be open to universal competition, British and foreign.

5. The period allowed for the competition will begin with the day of announcement of the subject for investigation, and will end with the last day of the fourth following December.

6. Any person who desires to be regarded as a candidate for the prize must deliver or cause to be delivered, at the hall of the company, within the allowed period, a letter in which he declares himself to be a candidate for the prize, and the treatise on which he bases his candidature; such letter and such treatise, to be addressed to the clerk of the Company, who will give a dated receipt for the same. The competition-treatise of a candidate may, if the candidate so prefer, be delivered in successive parts, each bearing its proper date.

7. Each treatise in competition for the Discovery-Prize must be an original work by the candidate who sends it in. It may be a treatise which he has published at any time within the allowed period, or may be a treatise which he has not previously published.

8. Although candidature is not restricted to any one nationality, all treatise, and all communications with the Company in relation to them, must be in the English language. Translations into English of competition-treatise published (within the allowed period) in a foreign language will be received on a like footing with treatises originally in English.

9. All treatises must be in print.

10. Each treatise must bear the name of its author.

11. Any particular candidate may be required to demonstrate practically to the Court, or to persons acting on their behalf, any fact or result which he claims to have discovered.

12. Candidature will be held to imply that the candidate undertakes to accept as regards himself the award which the Court shall make.

13. The Discovery-Prize being intended to promote the fullest possible elucidation of the given subject, the respective merits of candidates will be rated by that standard; and, if the Court be advised that the most meritorious candidate has produced an original solution of the main scientific problem or problems involved in the matter of the competition, the Court will award to him the entire Prize.

14. Should the Court be advised that no candidate has solved the main scientific problem or problems, but that valuable progress towards the object has been made by one or more of the candidates, or that collateral discovery valuable to sanitary science has been incidentally made by some candidate in his prosecution of the main research, the Court will apply such portion of the Prize as they may see fit in recognition of merits thus brought to their notice.

15. In estimating the originality of treatises, the Court will have regard not only to the state of knowledge which existed at the time when the subject for investigation was announced, but also to such later advances of knowledge as may have been made up to the time when the treatises were sent in.

16. Where two or more candidates equally claim to have made discovery in the subject-matter of the Prize, further information may be required of them in sup-

port of their respective claims, and the Court will judge between the claims as they shall think right. Each candidate will have been at liberty to notify the Court at his own time any discovery which he believes himself to have made.—See above, § 6.

17. Neither the Prize, nor any portion of it, will be awardable to any person who has not formally declared himself a candidate for the Prize.—See above, § 6.

18. The awarding or withholding of the Discovery-Prize is to be entirely in the discretion of the Court, and the Company is not to be under any legal responsibility with regard to the same.

Selections.

MEDICINE.

FUNCTION OF THE CEREBELLUM.—Prof. Schiff (*Pflüger's Archiv*, Band 32, Heft 7 and 8) has a communication of a provisional nature on this subject. It is known that ablation of the most superficial layer of the cerebellum, in its whole length and breadth, or the vermis alone, causes no symptoms. This holds good not only for the gray substance, but also for the white to about the level of the second bifurcation of its fibres. If a cut is made into the portion lying between the entrance of the cerebellar peduncles of the two sides and two-thirds of the thickness of cerebellum is sliced off layer by layer, then irregularities of movement ensue, which rapidly increase with the depth and extent of the wound; and when the ablation approaches the middle of the cerebellum, then ensue the movements which have been designated since Flourens as want of coördination. These disturbances of movement can ensue when an extended injury is made of one or both hemispheres without implication of the vermis, or after a lesion of the latter alone, or of a hemisphere and the vermis together. In all these instances the motor disturbances are not lasting, lessening in the course of one or two days. These motor disturbances are symptoms of the spread of traumatic irritation.

Rolling movements ensue when the middle cerebellar peduncle is injured, and the direction of the turning is toward the least injured side. If the injury reaches in the interpeduncular space to the under third of the cerebellum, or the fourth ventricle is bared, then movements of incoördination ensue, but the important point is that they remain an indefinite time. By more extended loss of substance in the under third of the cerebellum, the disturbances are greater and more extensive than by smaller losses. It is not correct to infer that the intensity and length of time of an injury of the cerebellum depends mainly upon the extent of the wound, or upon the volume of the disorganized cerebellar mass. —*Jour. of Nervous and Mental Diseases.*

HYDATIDS DISCOVERED IN AN UNUSUAL SITUATION.—A stout built man (a farmer) consulted me as to a large swelling in the left axilli, stated that it seriously incommodated him in his daily avocations. Finding it could not possibly be an aneurism, I determined to cut down upon it. Having made a free incision, to my astonishment, out came an hydatid of nearly the size of a goose egg. I extracted a great number of others, varying in size from a pigeon egg to a small pea. After this I injected into the cavity a solution of iodine, and by means of firm compresses, the wound was totally healed in ten days, no bad symptom intervening.—Barnet, *Australasian Med. Gaz.*

AN UNUSUAL DISLOCATION OF THE PATELLA.—Mr. T. W. sent for me. The history of the case is this—that while riding fast on wet, slippery ground his horse fell over on him, striking the outer edge of the patella upon a hard substance, which caused it to be impacted between the condyles. On first appearance it seemed easy to reduce it by a good blow of the fist—it had all the appearance of a fish's back. Finding this impossible, I put him under chloroform and extended the leg and made sudden flexion, which reduced it instanter. There was some amount of synovitis subsequently, which kept him in bed for a week. This occurred some years ago. This man I met about three weeks ago, and he is as well and active as ever. After a careful search I can find only ten similar cases on record, some of which had a fatal termination.—Barnet, *Australasian Med. Gazette.*

THE SPINAL CORD AND CEREBRAL CENTERS.—Prof. Schiff (*Pflüger's Archiv*, xxviii, 1882; xxix, 1882; xxx, 1883) has lately made a series of studies upon the nervous system. His results are as follows:

The posterior columns at the lower part

of the spinal cord are sensitive, and irritation causes pain. The sensibility is greater at their outer edge than in the middle line. In the cervical segment it is otherwise; there irritation causes no pain, and generally no marked sensitiveness. He concludes that the longitudinal fibres of the posterior columns (independent of the regions where the nerve roots are), by weak irritation, can cause an increase of sensitiveness, but not to the degree of pain. The posterior columns contain no motor fibres. The anterior columns are not irritable to organic irritations. A segment of the spinal cord which is robbed of its posterior columns conducts pain and pressure-sensations, but no tactile sensations. He does not believe that the use of pressure in a mercurial manometer is a measure of pain. The irritation of a nerve sets into activity vaso-constrictor and vaso-dilator centers, and by the overpowering action of the former centers the mercury rises: To the bladder and colon the spinal cord gives reflex movements, but no motor-conducting paths, but only kinesodic paths of conduction. There are irritable centripetal nerves which cause no consciousness of a sensation, which run only to the medulla oblongata, and are lost here in the reflex apparatuses. These centripetal nerves cause, when irritated, elevation of blood pressure. To seek centers, the only method is by that of paralysis, for all centers are inexcitable to artificial irritants. He has found that the extirpation of Hitzig's and Ferrier's cortex centers neither paralyzes these muscles nor weakens them. There is only a modification in the position of the member, which coincides with those seen after section of the posterior columns. They are explained by want of tactile sensibility. If these centers are extirpated more deeply, then there is a want of all sensibility. The peculiarities seen after extirpation of the centers are due to want of tactile sensibility, for the tactile sensations of the different organs have cerebral centers, which are yet active when all peripheral-entering nerves of tactile conductivity are paralyzed. The center of vision is active when both of the nerves are paralyzed, through substitution-action with other centers. The degeneration of the pyramido-lateral paths is due to affections of motor centers. The view of motor-centers is superfluous; the movements are reflex.

His supposition is, that the posterior columns and Türck's columns are mainly of the same system; the pyramido-lateral paths are not otherwise than the descending angle of a reflex arr, through which the position of our limbs or changes in our equilibrium are regulated. After division of Türck's columns the movements do not take place after irritation of Hitzig's centers. The position of the tactile center is not in the cortex. In the spinal ganglia lie the trophic centers for the ascending line of the cerebral tactile arc.—*Journal of Nervous and Mental Diseases.*

THE INNERVATION OF THE CARDIAC END OF THE STOMACH. — Dr. Openchowski (*Centralblatt*, No. 31, 1883) has made a series of experiments upon this point. His results are as follow:

1. The cardiac end of the stomach is innervated through pneumogastric nerves, and the right goes direct, whilst the left, by means of a commissural branch of Auerbach's plexus, goes to the stomach.

2. The pneumogastrics send extremely thin fibres to nests of little ganglia of a sympathetic character which are placed about the cardiac end of the stomach.

3. Upon the large branches of the vagi, in the cardiac region, are large nests of ganglia containing many cells.

The separated cardia of the frog can for an hour keep up rhythmic automatic contraction. In living rabbits the cardia is quiet when not irritated.

After death it makes a few rhythmic contractions. By separate induction-breaks to the vagi, the cardia does not contract. With intervals of ⅓″ in succeeding induction-breaks there ensues weak contraction after a summation-time of ½ — 2″.

Frequent irritations, from 1-12—1-30″ interval, of considerable intensity, contract the cardia. He also found a nerve whose function it was to dilate the cardia, and also constrictor nerves of the cardia. In the vagus exciting and inhibiting fibres run to the cardia.—*Jour. of Nervous and Mental Diseases.*

RENAL CHANGES IN HÆMOGLOBINUIRIA. Dr. Lebedeff (*Virchow's Archiv*) has made observations on the alterations which the kidney undergoes in hæmoglobinuria induced by various poisons such as chlorate of sodium, iodine, and glycerine. In all cases the general result was the same whatever the poison employed; the alterations differed from one another only in intensity. There was always an excretion more or less well-marked of a coagulable albuminous substance into those parts of the kidney which are regarded as peculiarly secretory, namely, in the convoluted tubules and their terminations where the columnar epithelium is present, and to a less extent in Bowman's capsule. The epithelial cells were invariably concerned in this excretion, for the alterations which occur in them cannot be otherwise explained. These alterations consisted in swelling of the cells by imbibition of fluid, and in the formation of numerous round vacuoles. The vacuoles are formed throughout the whole cell and not in the homogeneous substance only. The hyaline albuminous substance makes its exit from the cells into the lumen of the tubules and appears to do this in different ways; sometimes it would seem as if the part of the cell directed towards the lumen of the tubule became separated and only the peripheral part remained behind. The nucleus may remain in the latter part but sometimes it appears also to pass into the lumen of the tubule. This destruction of the cells appears only to occur in severe cases. In other cases the albuminous substance appears to be excreted through the margin of the cell into the tubule, while the cell itself remains intact. The greatest part of the albuminous substance appears to be secreted by the cells, but sometimes undoubtedly exudation occurs in the capsule and indeed always occurs in severe cases. The amount of exudation in the capsule however is not in proportion to the enormous amount in the tubules, especially in those cases where death occurs at the time when the albuminuria is most intense. It must therefore be assumed that the albuminous substance from the glomeruli becomes mixed with the coagulable secretion of the cells, and from the mixture the homogeneous cylindrical masses are formed which are especially found in the non-secretory parts of the tubes. This mode of production of hyaline casts has been already observed by Cornil in various processes, but in the present instance the substance is not the same as that which forms the hyaline casts in nephritis, for here there is a greater or less admixture of hæmoglobin. The plasma containing hæmoglobin is secreted from the loops of the glomeruli, but a large portion of the albuminous substance composing the cast originates from the cells of the convoluted tubules. It is only during its passage through the canals of the kidneys that a precipitate or coagulation of the coloring matter of the blood takes place, probably in connection with re-absorption of fluid. The changes in the cells of the convoluted tubules are not purely passive, but the cells play an essential part in the secretion of albuminous substances and hæmoglobin, by the long continuance of which however they become damaged themselves. These changes in hæmoglobinuria are essentially the same as those observed in profuse excretion of albumen in general and especially in acute nephritis and in amyloid degeneration. Whether it is allowable to speak of true nephritis in hæmoglobinuria must be settled by the further course of the morbid changes. The alterations in the epithelium and the formation of the casts alone does not warrant it.—*The Practitioner.*

HYDRIODATE OF HYOSCIN IN PHTHISIS.—Dr. Fraentzel recommends (*Wiener Med. Blätter*) hydriodate of hyoscin in the treatment of the night-sweating of phthisis in subcutaneous doses of half a milligramme ($\frac{1}{120}$ gr.), or in pill, beginning with the same dose. He does not find it so universally beneficial as atropine, and it sooner exhibits a narcotic action; but he has seen good results from it in cases where atropine has proved useless, or has failed to act after being in use for some time.—*London Med. Record.*

ARSENIC IN PHTHISIS.—Dr. Lindner, of Ludwigslust, writes to the *Deutsche Med. Wochenschrift*, giving some of his experiences with regard to arsenic in the treatment of phthisis. He confirms what was written by Herr Kempner in a previous number of the paper, and emphasises the improvement in the subjective symptoms. He has tried the drug in tuberculous affections of other organs, such as the bones and joints, but has not found any benefit to result, unless a slight increase of appetite might be attributed to the treatment.—*London Medical Record.*

ERGOTIN IN DELIRIUM TREMENS. — In the *Vratch*, 1882, Dr. A. Arnoldoff draws attention to the great value of ergotin as a remedy for acute and even chronic alcoholism. From his seven cases, treated by internal administration of the drug, it may be seen that sleeplessness usually disappears after a few first doses, and delirium entirely ceases after 1 grain or 1½ grains of ergotin has been taken. In a case of chronic alcoholism of six years' standing the following mixture was successfully administered. ℞. Ergotin, 2 grains; bromide of potassium, 1 drachm; water, 8 ounces. A tablespoonful to be taken every hour and a half or two hours. Recovery (that is, disappearance of craving, of insomnia with night hallucinations of sight and hearing, tremor, and sickness) followed after taking 4 grains of ergotin.—*London Medical Record.*

BOLLINGER AND VON RECKLINGHAUSEN ON TUBERCULAR INOCULATION.—At the recent meeting of the German Naturalists and Physicians, Professor Bollinger brought forward the results of some of his investigations on this subject. (*Wiener Allgem. Med. Zeit.*) Direct inoculation of tubercular virus under the skin of the guinea-pig failed to induce the disease even when the animals were placed under the worst hygienic conditions. Similar injections, however, made with milk derived from cows affected with bovine tuberculosis, resulted in every case in the reproduction of the disease. No result followed the injection of the same milk after it had been boiled, and hence the obvious deduction is insisted upon that precautionary boiling should be universally adopted. Professor Bollinger professes complete faith in the theory of infection from micro-organisms, and especially in the specific nature of the tubercle-bacillus, and in the identity of human tuberculosis with that form of the disease affecting the bovine animals. These views were strongly combated in discussion, by Prof. von Recklinghausen, who maintained that in the face of the fact that pathological changes, not distinguishable from those produced by tubercle, could be set up by the injection of indifferent or even crystalline substances, the discovery *post mortem* of this or that form of micro-organism could not be held to be conclusive as to the parasitic origin of such changes. That many varieties of micro-organism may make their way into the tissues and there develop and increase is undoubtedly true, but that they have any direct causal relation to all the pathological changes with which they are associated, is denied. A familiar example is furnished by the small-pox pustule, in which certain bacteria are constantly found to be developed; but they certainly cannot be held to be the originators of the disease.—*London Medical Record.*

MARSH MALLOW IN PALMAR PSORIASIS.—The case which drew my attention to the value of some of their applications, and which I have taken as the text for this short paper, was one of palmar psoriasis of long standing and unusual obstinacy to treatment. The patient was an old man, aged sixty-five. He had been an invalid suffering from chronic bronchitis and weak (probably fatty) heart for some years, but had not noticed anything the matter with his hands till about eighteen months previous to his consulting me. There was no history of syphilis. The palm of his right hand presented the usual appearances characteristic of the disease. The integument was hardened and thick, and from off its surface glistening white scales could easily be removed. In some places it was corrugated and fissured. Extension of the fingers would cause the cracks to bleed. The dorsal surface of the thumb was also affected. The symptoms he complained of most was the intense itching, which no application seemed to relieve.

I prescribed Fowler's solution in three-drop doses three times a day, ordering him to wash his hand well with soft soap night and morning, and then apply an ointment composed of chrysophanic acid and vaseline. This treatment was continued for some weeks, but did not appear to produce any marked improvement. I then tried in turn oil of cade and vaseline, ammoniated-mercury ointment, and Wright's liquor carbonis detergens as a lotion. None of these measures were successful. The old woman then appeared on the scene, informed me it was due to a "chill in the blood," and that she had seen similar cases cured by marsh mallow ointment. I doubted its efficacy, but willingly allowed my patient to try it. The first application relieved the irritation, and in a month the skin of the hand had almost regained its natural appearance. I should add that she was pleased to approve of the washings with soft soap, and this was continued while applying the ointment, but the internal administration of arsenic was stopped. The disease appeared again in a short time, but a fresh application of the ointment cured it at once.

The *Althæa officinalis*, or marsh mallow, belongs to the natural order *Malvaceæ*, and is to be found growing plentifully in most European countries. On the Continent, especially in France, it is highly esteemed for its demulcent properties. Both the leaves and roots are used, and are given internally for various affections of the mucous membranes. A favorite remedy in France for sore throat is *pate de guimauve*, which is a kind of lozenge made with mucilage of althæa, gum-arabic, sugar, and white of egg. Recipes for a decoction and syrup of althæa were to be found in the old London pharmacopœia. In this part of the country the ointment is the favorite preparation, and is made by cutting the fresh leaves into small pieces, stirring them together with lard, and boiling the mixture for half an hour, after which process it is strained through muslin or through a common kitchen strainer, and is then ready for use. The exciting cause which produces psoriasis still remains involved in much obscurity. It is generally supposed to be due to some constitutional peculiarity—a term, however, which, I think, conveys to us little more meaning than the old woman's idea of it as a "chill in the blood." Willan described this constitutional condition as characterised by "a slow pulse, or a languid circulation of the blood, and, what must be generally connected with it, a harsh, dry, impermeable state of the skin and cuticle." Wilson and Fox believed the cause of it to be a special poison, the nature of which is obscure, but they are satisfied it is originally syphilitic. Most dermatologists are agreed as to its hereditary character.

In all cases of psoriasis which have assumed a chronic form arsenic and carbolic acid are the drugs which are generally administered internally with good results.

Dr. McCall Anderson has seen much benefit derived from the use of carbonate of ammonia increasing from ten to forty grains. The alkaline treatment, consisting of liq. potassæ in twenty-minim doses three times a day, has found favor with some writers.—F. C. Berry, B. A., M. D. *The Practitioner.*

Demme on Tuberculosis in Childhood.—An interesting discussion on this subject occupied one of the sittings of the Congress of German Physicians and Naturalists held recently at Freiburg (*Weiner Allgemeine Med. Zeitung*). The relative frequency of the disease in new-born children, its development in early childhood, and the dangers of infection to which children become exposed, were each in turn considered. Prof. Demme, of Berne, gave as the result of his investigation the following facts with respect to the locality of the attack in congenital tubercular disease—viscera, 71·8 per cent.; joints and bones, 69·6; peripheral lymph glands, 65·4. The disposition to the development of tubercle is much increased after attacks of measles or prolonged whooping-cough. While maintaining that the inhalation of tubercular poison is more to be feared than its ingestion, he showed by his own and foreign observations the relative frequency of tubercular poisoning by unboiled milk, derived from animals affected with bovine tuberculosis. Professor Rauchfuss, of St. Petersburg, contributed a valuable summary from the pathological records of the Foundling Hospital in St. Petersburg, to show the relative frequency with which individual organs became attacked. His figures show that the lungs and bronchial glands are affected in nine-tenths of the cases; the liver, spleen, intestines, kidneys, pia mater, pericardium, and peritoneum follow in that order. A similiar summary, derived from the large Foundling Hospital in Moscow, and arranged by Professor Klein, differs in small points only. The lungs and bronchial glands again head the list, which gives the liver, spleen, kidneys, choroid, intestine, pia mater, as next in order of frequency.—*London Medical Record.*

The Use of Atropine in Coryza.—The power possessed by atropine of diminishing the secretion of the nasal mucous membrane led Gentilhomme to employ it in acute coryza. In several severe cases, characterized by profuse secretion, fever, and difficulty of breathing, which in one case closely resembled asthma, one-half milligram of atropine given in pill form served to arrest the disease entirely. When the disease has passed through the acute stage, its administration improves the general condition, but its effect is not as striking as when given in the acute stage. Lublinski also reports decided improvement resulting from the administration of one milligram of the sulphate of atropine at the onset of acute coryza, and the duration of the disease appears to be considerably reduced by the administration two or three times daily of one-half to one milligram. In chronic nasal catarrh, however, he could not find any improvement resulting from this treatment.—*Deutsche Med. Zeit.*

TCHERNOFF ON ABSORPTION OF FAT IN ADULTS AND CHILDREN IN FEVER AND APYREXIA.—Following a suggestion by Professor V. A. Manassein, Dr. V. E. Tchernoff (*St. Petersburg Inaugural Dissertation*, 1883) investigated the assimilation of fat by adult subjects and children suffering from febrile diseases. The observations were conducted on twenty-two patients, nineteen of them being between 7 and 42 years of age, the remaining three under a year. Seven of the patients suffering from enteric fever, two from recurrent fever, four from typhus, two from erysipelas, one from malarial fever, two from croupous pneumonia, and one from varioloid. Of the infants, one had fever from vaccination, one suffered from scarlatina, and one from catarrhal pneumonia. The patients (those between 7 and 42 years of age) received milk, in which the proportion of fat had been previously ascertained, and bread; their fæces, made from the beginning of an experiment, were collected and analyzed. The author sums up his results as follows:

1. A healthy subject assimilates about 90 to 94 or 95 per cent. of fat of the food given, provided it be present in a form suitable for the action of bile and pancreatic juice.

2. A subject suffering from a febrile disease, as a rule, assimilates lesser quantities of fat than the same subject in a healthy state; the difference being on an average 7.2 per cent.

3. The single deviation from this rule is given in enteric fever. When suffering from the latter, the patient absorbs more of fat than when he is convalescent, or quite well. This is especially true in regard to severe forms of typhoid.

According to the author, the fact of fat being better assimilated by typhoid patients finds its explanation in the presence of great numbers of leucocytes in the intestines in cases of enteric fever. As a recent work of Professor F. N. Zawarykin shows, leucocytes are 'true absorbers and distributors of fat.'

4. The quantity of absorbed fat, and the per centage proportion of fat in fæces, are influenced by the quantity of fat in the food daily taken by the individuality of the patient examined, by his general state at the time of examination, and, possibly, by the admixture of carbohydrates and albuminoid matters.

5. There exists no difference between adults and children in regard to all the propositions stated above.

6. Febrile patients, though their faculty of the absorption of fat is diminished, still assimilate fat in considerable quantities (from 80 to 90 per cent.) Therefore, any fears entertained against the administration of fat to febrile patients are groundless. Any avoidance of fat in febrile diet would be unjustified: fat is as necessary for the diseased as it is for the healthy.—*London Medical Record.*

THE INFLUENCE OF DIABETES MELLITUS ON THE FEMALE SEXUAL ORGANS.—The ordinary occurrence late in life of diabetes in woman has prevented the confirmation of the occurrence in them of complications of the sexual apparatus analogous to those which so often occur in men.

A case recently reported by Dr. Hofmeier, however, shows that when the disease occurs in young women disturbances of the genital system are also apt to present themselves. The case was one of an unmarried woman, 20 years of age, who had menstruated regularly from her fourteenth year up to one year before the time of the report, when she attended the clinic of the Berlin Hospital for Woman for relief from pruritus vulvæ. It was then found on examination that the urine contained large quantities of sugar, and that the uterus was greatly atrophied, being less than 5 c. m. in length. Examination under anæsthesia by Prof. Schroder revealed that the ovaries were greatly reduced in size. As all other diseases were excluded, it was concluded that the atrophy was the result of the diabetes.

An examination of the records of the hospital was then made for similar cases. It was there found that of over one thousand cases attending for pruritus vulvæ nearly all had passed the age when menstruation ceases spontaneously. In all of these the examination of the urine for sugar was only omitted in seventeen cases, and of these only three had not reached the usual age of the menopause, and in these latter diabetes could be excluded by the other symptoms. There was only one case on record in which diabetes was present during the child-bearing age, and then, unfortunately, no record was made of the state of the menstrual function. These investigations point to the fact that in women diabetes ordinarily occurs late in life, and explains the apparent exemption of the sexual organs in diabetes in women.—*Berliner Klin. Wochenschr.*—*Medical Times.*

A STUDY OF THE THERAPEUTICS OF THE RESPIRATORY SYSTEM.—In this article it is intended to represent in a methodical fashion the principal facts connected with the treatment of diseases and disorders of the respiratory systems. No attempt will be made to bring forward new lines of treatment, but the principles of treatment will be placed before the reader in a more definite order than appears to be generally done. If no further advantage be derived from this discussion, it may at least enable the practitioner to submit his own opinions of the proper employment and value of a large number of measures to something approaching scientific analysis, and afford him clearer and fresher views of the *modus operandi* of familiar drugs.

With respect to the plan of studying the rational therapeutics of this or any of the other great systems of the body, it seems to be best (1) to begin with a brief *résumé* of its physiology; (2) to discuss fully the pharmaco-dynamics of the part; (3) to sketch in a general way the principal diseases of the system which call for treatment; and (4) to discover, if possible, the means of natural recovery, which the art of the therapeutist will attempt to bring into play, and from which he must take suggestions for treatment. Thereupon (5) the rational therapeutics of the disease will be a scientific necessity. This division of the subject is based upon the following analysis of the meaning of treatment.

It appears to the writer that four conceptions are included in the words *Therapeutics* and *Treatment.*

First, there is a *physiological* conception, the conception of health or "the normal," from which the organ or system has departed, and to which it has to be restored. Health is the physiological result of a vast number of influences, conditions, or circumstances, under which the organ or system has reached its present condition of evolution, and now exists—so-called *intrinsic* and *extrinsic* influences.

Secondly, there is a conception of a *power* of *interfering*, on the part of the practitioner, with the influences or conditions of life, and thus of interfering with or modifying life itself. This is the power of "acting physiologically" upon any organ by means of food, air, temperature, drugs, &c., and may be conveniently called *pharmaco-dynamics.*

Thirdly, there is a pathological conception—the conception of a morbid state into which the organ or system has passed from the normal, and from which it is to be restored to the normal. Death or disorder is the pathological result of the action of influences different either in degree or in kind from those which produce and maintain health.

Fourthly, there is a conception of *natural recovery.* Nature can meet many morbid influences, and overcome them in various ways, *e. g.* by expelling them (vomiting, purging, &c.); by an increased amount of reaction to them, including compensation by hypertrophy, as in the heart; by means of regulating mechanisms, as in the body-heat; by vicarious action, and so on. If compensation and reaction fail, and disorder have actually occurred, an organ will still—within certain limits—return to the normal and continue in it, if the morbid influences are withdrawn. Thus, if narcotism be produced in any animal by morphia, the symptoms do not continue indefinitely, but disappear with the removal of the poison. This seems to be the proper statement of the great principle of the *vis medicatrix*, which, as Dr. Oliver Wendell Holmes says, enters in some form into every system of therapeutics. It is here that the healing art finds at once its model and its opportunity. Unfortunately, there is a limit to natural recovery, and therefore a limit to treatment.

Fifthly, the therapeutics of any diseased state follows rationally from these four considerations. Treatment may be purely *empirical*, but it is daily becoming more rational, as our knowledge of physiology, pharmaco-dynamics, pathology, and nature's way of recovery, advances. In any given instance of treatment, we bring into the field every particle of knowledge we can command, respecting the normal and abnormal states of the organ involved, the influences which may be brought to bear upon it, the extent and limits of the power of natural recovery which it enjoys. It would be beyond the purpose of an article on pharmacology to enter fully into the physiology proper, much less the pathology, a knowledge of which must be assumed; but a discussion of therapeutics involves in every sentence some reference to disease, and it will therefore be more satisfactory to refer to both the normal and the abnormal relations of the respiratory system in their proper order.

I.—PHYSIOLOGICAL RELATIONS.

Respiration, or breathing, is a great double function of oxygenation and excretion. The first and greater part of the function, as commonly understood, consists in the admission of oxygen into the lungs, and the discharge of carbonic acid, water, and heat and is called external respiration; whilst in the second part of the process, which is called internal respiration, the oxygen having been conveyed by the red corpuscles, combines with the tissues, from which the carbonic acid is set free.

In briefly reviewing the physiological relations of respiration we must separate distinctly the two parts of the function, oxygenation and excretion.

(A.) *Oxygenation.*—The red corpuscle of the blood is the oxygenating or respiratory element of the body; this does not require discussion here. The physical part of respiration is carried on by means of a pneumatic mechanism called the chest, and the respiratory passages. By alternate inspiration and expiration, the air is continually renewed in the lungs, a fresh supply of oxygen presented to the red corpuscles, and carbonic acid, water, and heat given off from the plasma.

The red corpuscles and the chest are brought into functional relation with each other by means of a special nervous mechanism, called the repiratory center, a portion of nervous matter in the medulla oblongata, which is peculiarly irritable in the presence of oxygen and carbonic acid.

When the oxygen in the arterial blood of the part is of a particular quantity, the respiratory center is active, and discharges its force rhythmically, sending impulses downwards through lower centers in the cord to the nerves supplying the muscles of respiration, especially the diaphragm, intercostals, muscles of the abdominal wall, back, and neck, and the muscles of the nostrils and larynx.

The greater the amount of oxygen admitted to the center, the less powerful its discharges, and the more weak or superficial the breathing.

By the admission of a large amount of oxygen to the centre, the stimulation may even cease, so that no motor impulse is sent down to the muscles of the respiratory passages and chest. By cutting off the supply of oxygen to the center altogether, it is so powerfully stimulated that the muscles of the chest and body generally are violently convulsed.

Now the amount of oxygen in the blood of the arteries of the medulla is the same as in the systemic arteries generally, and we thus find that the state of oxygenation of the arterial blood governs the respiratory movements, through the respiratory center. The fundamental canon in the physiology of respiration is that *the condition of the red corpuscle is the prime mover of all respiratory acts.*

The term respiratory "center" applied to the special nervous area in the medulla, implies that certain influences meet in this point, originating in a circle of which it is the middle point; and this is the case. Falling into the respiratory center are impressions conveyed by afferent—usually sensory—nerves, from every part of the body, modifying its activity, and reflexly influencing the respiratory movements. Thus sneezing is caused by irritating the fifth nerve in the nose, or the second nerve in the retina (gazing at the sun); and the breathing responds to irritation of the surface of the body, especially by cold. Mental conditions also powerfully affect the respiratory center, whence laughing, sobbing, &c. Of all afferent nerves to the medulla, those coming from the respiratory organs through the vagus are peculiarly capable of stimulating the centre; thus irritation of the larynx immediately causes the reflex respiratory act called cough. The vagus is therefore said to be the special afferent nerve of respiration; indeed, the whole surface of the respiratory passages, and probably the lungs, are abundantly supplied with rootlets of the vagus, which are incessantly collecting impressions, and transmitting them through the vagus to the respiratory centre. Every change in the distension of the lungs, and in the quantity and quality of the pulmonary blood, thus instantly tells on the respiratory movements. Inspiratory impressions originate chiefly in the lungs, expiratory impressions in the larynx; but in-as much as the force and frequency of the respiratory movements are so modified by the reflex activity of the center as not to alter the total amount of respiratory work done, we consider this mechanism to be regulative only, and that the respiratory center is regulated by these impressions traveling up the vagus, just as the ganglia of the heart are regulated by the impressions traveling down the vagus.

The respiratory center has another intimate connection. Diminished oxygenation of the blood, whilst increasing the respiratory activity, stimulates also the other two great centers in the medulla, increasing the arterial resistance through the vaso-motor center, and slowing the heart through the cardiac center.

The afferent impressions from the lungs and respiratory passages besides falling into the respiratory center, reach, if sufficiently powerful, the convolutions also, where they are felt as various sensations, referred, more or less accurately, to their seat of origin in the respiratory organs. In health these sensations of common sensibility are exceedingly feeble; and we do notappreciate them until they are converted into sensations of pain, oppression, distress, tickling, &c., in disorder of disease.

Amongst the respiratory muscles one group demands special notice, viz. those distributed to the bronchi. These are motor filaments of the vagus, which originate in the respiratory center and supply the muscles regulating the calibre of the air-tubes. They bring the bronchi under the control of the medulla, and thus of the afferent impression, especially of those very impressions which arise from the respiratory passages, the seat of their own distribution.

(B.) *Excretion.*—The air of expiration which has lost a certain per centage of oxygen, proves to have gained about an equal volume of carbonic acid gas, which has been given off by the blood from a loose combination with the liquor sanguinis. Carbonic acid does not appear to have any direct effect on the respiratory center like want of oxygen. The whole of the expired air is also saturated with the vapor of water; and heat is freely lost from the pulmonary blood.

II.—PHARMACO-DYNAMICS.

The extensive relations of the respiratory organs to the external air, to the blood and circulation, and to the nervous system, afford us abundant means of influencing their mode of action at our pleasure. These means we will now review in their natural physiological order:—

1. *The air.*—The air which comes in contact with the organs of respiration may be altered in five different respects, each of which will have a physiological effect upon the oxygenating and excretory functions of the lungs, viz. as regards (1) its *absolute amount*, (2) its *chemical composition*, (3) its *temperature*, (4) its *moisture*, and (5) its *pressure*.

(1) The supply of air, like that of the food, may be entirely arrested for a time, another gas with different physiological properties, such as nitrous oxide, being allowed to take its place. Or the amount respired may be simply reduced, by administering rarefied air; or increased, by admitting oxygen or compressed air into the lungs. The same effects may be produced by ordering little or much muscular exercise respectively.

(2) The chemical composition of the atmosphere, physiologically speaking, relates only to the amount and quality of the oxygen. Impurities concern the pathology of respiration; and the conveyance of medicinal substances into the respiratory passages and lungs by the medium of the inspired air will be separately noticed. The proportion of oxygen to nitrogen in the air might be modified by arrangements for special inhalation, but practically this is seldom attempted, mountain and ocean climates affording us a much more satisfactory supply of pure air.

(3) The temperature of the air respired may be modified either by selecting particular climates — tropical, sub-tropical, temperate, or cold; by artificial regulation of the atmosphere of the room (ventilation, heating, etc); or by arrangements for warming or cooling the ingoing current of air only, by means of so-called "respirators," and by enforcing nasal breathing only, or oral breathing only, as the case may be.

(4) The amount of moisture in the air respired can be altered at pleasure, whether by residence in a dry climate or in a moist climate, or by varying the amount of watery vapour in the air of the room, or in the individual inspiratory draughts (steam kettles, hot water inhalations, etc).

(5) Lastly, the pressure of the air is completely under our command; and this

again either by means of climate (elevated mountain residence), or by local artificial arrangements such as the air bath and pneumatic apparatus.

The compressed air-bath, at a pressure of 1-5 to 1-2 of an atmosphere above the normal, increases the amount of oxygen admitted into the blood, as well as the vital capacity and the size of the lungs, whilst it renders respiration less frequent and more easy. A rarified atmosphere is never given as a bath; on elevated mountains it increases the depth and frequency of respiration, and the vascularity of the lungs, so that there is a tendency to hemorrhage from the alveoli.

The pneumatic apparatus, a small gasometer, admits air under artificial pressure to the respiratory passages only, the patient breathing into, or out of, a valved tube connected therewith.

Inspiration of air compressed by about 1-50 atmosphere increases the amount of air entering the chest, and eventually the vital capacity, the size of the chest, and the respiratory force, whilst it diminishes the vascularity of the lungs and raises the arterial pressure. The other methods of so-called ærotherapeutics hardly require mention here.

2. *The red corpuscle.*—The red corpuscle being the great medium of external and internal respiration, as well as the prime mover of the respiratory centre, is an all-powerful agent in our hands, in connection with the lungs. We have abundant means of modifying the number and quality of the corpuscles, by food, drugs, and all the ordinary natural influences.

3. *The circulation.*—The corpuscles must be circulated by the heart and vessels, and any effect that we may produce upon these will modify the respiratory functions. The pharmaco-dynamics of the circulation need not be discussed here.

4. *The lungs and air-passages.*—(*a*). The afferent or sensory nerves of the respiratory organs may be stimulated by cold and dry air, by chlorine gas (which is, however, never used for this purpose), and by a great and valuable group of the materiæ medicæ, viz. ipecacuanha, senega, tobacco, nitre fumes, ammonia, and antimony. They are depressed or soothed by warm and moist air, warm food, warm applications to the chest wall; possibly by demulcent substances to a small extent; and by an important group of drugs, viz., opium, chloral, chloroform, and ether.

(*b*). *The vessels of the bronchi* may have the circulation through them increased by all measures which increase the activity of the circulation generally, viz., by purgation, exercise of the lungs, and bodily movement; and amongst drugs, by digitalis, scilla, ammonia, alcohol, strychnia, and probably the whole series of aromatic oils to be presently noticed. *Per contra*, the bronchial circulation may be depressed by all cardiac and vascular depressants, including heat, alkalies, iodides, aconite, antimony, and ipecacuanha.

(*b'*). *The pulmonary circulation* bears very complex relations to the respiratory movements, as regards the pressure and rate of flow in inspiration and expiration, ordinary and extraordinary. Manifestly, as regards the general circulation, the pulmonary vessels may be modified by every influence which affects it, such as blood-letting, transfusion, purgation, a variety of drugs, and muscular rest or exercise. We possess one substance, non-officinal, which specially contracts the pulmonary vessels, namely muscarin, the active principle of the mushroom.

(*c*). *Glands of the bronchi.*—The secretion of bronchial mucus may be increased by alkalies, especially ammonia, by iodine, sulphur, and antimony, by ipecacuanha, senega, tobacco, scilla, and the great group of aromatic essential oils, oleo-resins and balsams, including turpentine, camphor, benzoin, copaiba, ammoniacum, and the balsams of Peru and Tolu. Warm liquid food remarkably increases the bronchial mucus, possibly belladonna and its allies, and certainly acids.

(*d*.) *The nervo-muscular structures* of the bronchia are affected by a great variety of measures, including all those which act upon the afferent nerves (*a*); but it is doubtful, and perhaps of little practical importance, how far the motor nerves and muscular fibres can be directly influenced. Ipecacuanha, senega, tobacco, and ammonia, may possibly produce such a direct, as well as an indirect stimulation, and consequent narrowing of the respiratory passages, of brief duration.

A group of substances of great pharmacological interest directly depress the same system, and so relax the bronchial walls and favor the movements of the respiratory air, viz. belladonna, stramonium, hyposcyamus, lobelia, and tobacco; opium, chloral, and cannabis indica; chloroform, ether, and amyl-nitrite, conium and warm moist air.

5. *The afferent nerves to the respiratory centre and sensorium.*—An important group of measures acting through this channel has just been enumerated, viz, those which influence the branches of the vagus originating in the lungs and bronchi, whether irritants or sedatives. It is of the first importance to note that sensations connected with the respiratory organs may be modified by the same means, the nerve-depressants thus proving to be pulmonary anæsthetics or anodynes, as well as interfering with reflex respiratory acts.

The second great group of afferent impressions, reaching the respiratory centre through *other channels than the vagus*, afford us a remarkably ready means of affecting it, and through it the chest. Impressions may be stimulating, including irritation of the fifth cranial nerve in the nose by ammonia, or by cold to the brow; of the olfactory nerve by odoriferous substances; of the optic and acoustic nerves by powerful light and sounds respectively; and of the nerves of the skin generally by painful impressions, such as flicking with towels, flagellation or slapping, extreme heat, mustard plasters, and other powerful local irritants. Or we may use measures with a sedative influence on the respiratory centre, including gentle warmth to the surface of the chest in the form of poultices and fomentations, warm baths, and local anæsthetics or anodynes, such as plasters and liniments of opium, belladonna, and essential oils (turpentine, camphor, &c.) applied to the chest-walls.

6. *The respiratory centre.*—Besides the number of afferent impressions, a variety of direct stimulants and depressants of this centre are in our possession. The force of the nervous discharge may be increased by ammonia, strychnia, belladonna, stramonium, and hyoscyamus; probably by ipecacuanha and antimony temporarily; and by alcohol, ether, and chloroform for a brief period at the commencement of their action. On the other hand, the last-named drugs quickly diminish the force of the respiratory centre (ether less quickly than the others); and the same effect may be produced at will by means of chloral, opium, aconite, veratria, conium, and physostigma.

7. *The tracts of the efferent impulses from the respiratory centre*, the *spinal centres* of the respiratory muscles, and the *nervo-muscular apparatus* of the chest and larynx, may be stimulated, not only reflexly, but directly, by strychnia, which greatly increases the vigor of the spinal centres; by electricity applied to the nerve trunks (phrenics, intercostals), or to the muscles directly; and by all measures which improve the nutrition of the nervo-muscular tissues, such as well-ordered exercise. Conversely, these parts may be depressed by physostigma, which greatly diminishes the vigor of the spinal centres: by conium, which paralyzes the motor nerves; and by opium, which depresses the whole efferent mechanism. The use of these depressing measures is almost confined to the muscles of the larynx. Most powerful of all is the method of arresting, or at least controlling, the movements of the chest by direct restraint, which is best accomplished by means of strapping or bandaging.

When we review the various measures classed under the 4th, 5th, 6th, and 7th preceding heads, we are enabled to re-arrange several of the most important of them into new groups with definite pharmaco-dynamical properties and important therapeutical bearings. These groups are—(A) *Expectorants;* (B) *Antispasmodics;* and (C) *Pulmonary Sedatives.*

A. *Expectorants.* — Expectoration, the discharge of the sputum, or secretions and other products of the respiratory passages, will manifestly vary with the amount and characters of the sputa, and with the expulsive force which can be brought to bear upon them. Measures are therefore called expectorants which increase the absolute amount of sputum formed, which so modify its characters as to facilitate its expulsion, or which evacuate it with greater ease; the first and second kinds of expectorants acting upon the glands, the third kind upon the muscular structures. Regarded otherwise, the expectorants will be found sometimes to stimulate the respiratory centre, *e.g.*, ammonia and ipecacuanha, sometimes to depress it, *e.g.*, warm, moist air. But of greatest practical importance is the action of expectorants upon the local circulation; and according to their stimulating or depressing influence in this respect they are commonly divided into (1) *Stimulant expectorants*, and (2) *Sedative expectorants.* It must be clearly understood that "sedative" and "stimulant" in this connection refer *not* to the respiratory, but to the circulatory effect of the bronchial measures.

(*a*). *Stimulant expectorants* include ammonia, scilla, all the essential aromatic oils, oleo-resins, and balsams enumerated above; strychnia, alcohol, warm liquid food, and moderate exercise of the body generally or of the chest.

(*b*). *Sedative expectorants* include alkalies, iodides, antimony; ipecacuanha, senega, and tobacco; warm, moist air; and warm, moist applications to the chest-walls.

If we wished to construct other groups of expectorants we might add:

(*c*). *Expectorants with a sedative effect on nerves.*—These are chiefly obtained from combinations of drugs, *e.g.*, scilla and opium, camphor and opium, ammonia and opium, even ipecacuanha and opium, antimony and opium, etc. Warm drinks have the same effect.

(*d*). *Expectorants which alter the chemical composition of the sputa.*—This is a highly important group. Alkalies increase the alkalinity of sputa. Sulphur, iodine, all the aromatic oils, oleo-resins, and balsams are excreted, as such, or as their products, along with an increased flow of mucus; and most of these, especially the aromatic substances, have an antiseptic, deodorant, and disinfectant effect on the secretion, and on the surface from which they are given off. The water of the bronchial mucus is increased in almost every instance of increased secretion, but specially by alkalies, iodine, and antimony, which thus possess the valuable property of increasing the liquidity of the sputa, whilst acids tend to diminish the amount of water, and thus the total amount of sputum,—*i. e.*, to "dry up" the secretion.

(B.) *Antispasmodics.*—These comprise a great variety of measures which have the common effect, directly or indirectly, of relaxing the muscular coat of the bronchi. They are: the various depressants of the respiratory branches of the vagus mentioned above, such as heat, iodides, alkalies, etc. The depressants of the other afferent nerves to the respiratory centre, especially warm applications to the chest-walls. The depressants of the respiratory centre itself, alcohol, ether, chloroform, opium, etc. The direct nervo-muscular depressants—bronchial, such as atropia, tobacco, amyl nitrite, etc.; and parietal, conium, etc. All these substances are distinctly depressant or sedative; but we have still another group of bronchial antispasmodics, which are perhaps the most powerful of all, viz., some of the sedative expectorants, such as ipecacuanha, senega, and tobacco. This paradoxical effect is easily explained: these substances, after momentarily increasing the spasm, cause a rapid and profuse flow of mucus from the bronchial wall, relieve the fulness of the vessels, provoke cough, and induce expulsion of the cause of the spasm.

(C.) *Pulmonary sedatives.*—These measures deserve a special name. The depressants of the afferent branches of the vagus to the brain, such as opium, ether, chloroform, etc., act as antispasmodics and muscular depressants, *i.e.*, prevent bronchial spasm, widen the tubes, arrest cough, and prevent or relieve pain and other distressing sensations referred to the respiratory organs. The most rational kind of pulmonary sedatives, however, are the expectorants above enumerated, when the cause of the distress can be removed. A combination of the two classes will manifestly answer best in most instances.

PERCHLORIDE OF IRON IN SKIN DISEASES.—Dr. Casarini, in the *Spallanzani*, states that the external employment of perchloride of iron is highly useful in many chronic diseases of the skin, employed as an ointment consisting of one, two, or three parts to thirty of lard, or as a lotion mixed with two or three parts of water. The diseases in which it is most efficacious are subacute and chronic psoriasis, eczematous lichen, and eczema—after all acute symptoms have subsided. From the cases he has employed it in he draws these conclusions:

1. The perchloride is a highly efficacious remedy in the treatment of simple and hemorrhagic purpura.
2. It is very useful in the chloro-anemic condition which often accompanies certain skin diseases, such as rupia, ecthyma, and impetigo.
3. It is employed externally with promptly efficacious results for ulcers dependent on scrofula and constitutional syphilis.
4. Used as an ointment it modifies in a

most efficacious manner the squamous skin diseases, and especially psoriasis.—*Presse Méd. Belge.*

PHOSPHATE OF CODEIN.—The *Wiener Med. Blätter* contains the mention of a new drug, the phosphate of codein, which has been prepared by Merck, of Darmstadt, under the directions of Professor Hegar, of Freiburg. It is intended for hypodermic injection, for which neither the sulphate nor the chlorate are suitable, being nearly insoluble in water. The new salt is soluble in four parts of water, and contains 70 per cent. of codein. It crystallizes in four-sided columns, and is similar to morphia in action, with the advantage of having less tendency to excite toxic symptoms. It is peculiarly suitable for sensitive patients.—*London Medical Record.*

SURGERY.

ON THE RELATION BETWEEN DENTAL LESIONS AND DISEASES OF THE EYE.

—By Henry Power, M.B., London, F.R.C.S., in the *Med. Press and Circular.*

From the consideration of the influence of carious and painful teeth upon the striated and unstriated muscular tissue of the eye, I pass to that which they may be supposed to exert upon the conjunctiva, cornea, and sclerotic. And I would refer, in the first instance, to the affection named phlyctenular ophthalmia, which is very frequently associated with carious teeth, and which I believe to be often caused by them.

Phlyctenular ophthalmia consists in the appearance of one or more small vesicles, soon bursting and forming ulcers around the margin of the cornea, or on the surface of the cornea, or of the sclerotic. Sometimes only one is formed; at others a succession appears. They sometimes produce little or no uneasiness; at others they are attended with great intolerance of light, and abundant lachrymation. The child—for the disease occurs more frequently in children—keeps in the dark during the day, only becomes lively at night.

The pathology of this disease is tolerably well known. It is believed to result from an inflammatory process, attended with the proliferation of nuclei along the sheaths of the nerve. The nuclei gradually advance towards the surface along the conjunctival, corneal, and sclerotic branches of the fifth nerve, and accumulating on the surface, form, with a little fluid, the contents of the vesicle, and when the vesicle bursts they gradually break down and disappear.

Now in cases of phlyctenular disease I have been accustomed to give minute directions in regard to diet, believing that this affection owed its origin to reflex irritation of the nerves of the eye, consequent upon some disturbance of the stomach and intestinal canal; and to the mothers of the numerous little patients suffering from this affection in our ophthalmic hospitals and departments of hospitals, I have been accustomed, after ordering a brisk purge and some quinine, to say, "Attend to its diet; no sweets, no pastry, no raw fruit. Give it bread and milk, finely cut-up meat and potatoes," and I am perfectly satisfied with the result of that treatment; but it has occurred to me that the view I have hitherto entertained of the etiology of the disease may be perhaps erroneous, and that instead of the stomach, the teeth are perhaps the organs at fault. It is easy to comprehend that the mastication of raw apples, candied lemon and orange peel, jam tarts, and the like, lead to impaction of acid and fermentable substances in the cracks and crannies of the teeth, especially if these are carious, and that remaining there for hours or days, if the due cleansing of the mouth after foods is neglected, such particles may set up inflammatory troubles which may propagate themselves along the nerve and lead to what we term reflex phlyctenular inflammation of the eye.

No doubt there are many exceptions to the rule that carious teeth and phlyctenula of the conjunctiva are associated, but I have noticed that a large proportion of the children who have phlyctenular ophthalmia have also carious teeth. Surely this is very suggstive of the etiology of the affection.

The occurrence of inflammation of the conjunctiva in such cases as the foregoing, as Weinberg remarks, may be explained on two theories: on the one hand when any organ is under the influence of some stimulus, this influence may modify the nerve filaments which terminate in this organ, and thus occasion phenomena of a reflex nature, either in the eye or elsewhere.

But it may also happen that the irritative process itself, whatever that may be, may propagate itself until it reaches the filaments which excite the neighborhood organ. It is evident that this can only happen when the filaments supplying the affected organs are derived from the same nerve, or when there are anastomoses between two nerves distributed to different organs. The two kinds of propagation, he observes, are well exemplified in the case of a carious tooth. In one instance there shall be well-marked conjunctivitis which resists ordinary treatment. The mouth is examined and a carious tooth is found, the very existence of which is unknown or forgotten by the patient, so slight has been the inconvenience he has experienced from its presence. The tooth is extracted, and the conjunctivitis forthwith and spontaneously disappears. This is a case of purely reflex action. But other cases are met with in which odontalgia is present, and in which the redness of the conjunctiva is accompanied with the small phlyctenular ulcers to which attention has just been drawn, with chemosis, and some impairment of vision. The pathogeny of this affection is more complex: part of the symptoms are here due to reflex irritation, but part also to an extension of the dental neuritis to the ophthalmic branch.

In the course of nine months' out-patient practice, Weinberg believes he met with 188 cases of ocular disease dependent on dental lesion.

I have some reason for believing that serious lesions of the cornea may be primarily due to carious teeth, and I will venture to give you the heads of a case that I watched with much interest, but which ended disastrously so far as the eye was concerned.

J. F., a stout, ruddy, Scotch girl, aged twenty-four, previously healthy and with good family history, suddenly after exposure to cold, was seized with a sudden sharp pain on left side of face. The vision was then good on that side, but after a few days became dim. A small circumscribed collection of pus formed exactly in the centre of the cornea, and she was then brought to me. She was treated for a few days with quinine and hydrargyrum c. creta, and with atropine drops, no improvement resulting. I performed paracentesis corneæ at the side of the cornea, which the girl bore without flinching. Slight improvement followed. Local depletion, in the form of leeches and blisters, and general tonic remedies, strychnia and iron were prescribed; but, the case dragging on, I again determined to tap the cornea, and this time pass the needle through the little abscess. The extreme indifference she showed to the puncture attracted my attention, and I then discovered that the cornea was anæsthetic, and that the sensation of the whole region supplied by the ophthalmic branch of the fifth was greatly impaired, though not quite lost. She was a servant, and as the case was likely to prove a troublesome one, she was taken into St. Bartholomew's Hospital under my care. The abscess had now become an ulcer; the cornea was generally hazy; there was much conjunctivitis, but no chemosis. She could distinguish the points of a pair of compasses at a distance of 1·5 c.m. over right brow, but only at a distance of 4·5 c.m over left brow. Special attention was now paid to the teeth. She stated that she had suffered much from toothache, and several carious teeth were found in both jaws, but especially in those of the left side. Four molars were extracted at once. In the course of a month from this time the cornea had become clearer; some hypopyon previously present disappeared. The iris could be seen, and vision which had been almost lost recovered sufficiently to enable her to count figures, whilst the anæsthesia of the globe almost vanished. She left the hospital and took a cook's place, but she returned about seven months after, stating that the eye had slowly deteriorated, perhaps from exposure to heat, and although there was now no loss of sensibility, the inflammation of the cornea and of the sclerotic, and the general discomfort from the condition of the globe, preventing her from doing her work, was so great that I determined to perform abscission, which was done nearly a year after the commencement of the disease, and the girl made a good recovery.

The lesion of the cornea in such a case as this may be referred to its anæsthetic condition; but the question arises, what caused the anæthesia? and I can suggest no cause for it except that her teeth were seriously affected.

I now proceed to the consideration of the last class of cases into which I divided the ocular troubles caused by dental lesions, namely, those in which the reflex action is exerted upon the optic nerve and retina and intra-ocular structures.

And first in regard to the occurrence of *amaurosis*; the most brilliant case on record is one that is now of somewhat ancient date, having been given by Sir William Lawrence, but which is so convincing that I venture to reproduce it here.

Amaurosis caused by a carious tooth.—F. P., thirty years of age, possessing a good constitution, and enjoying good health, with the exception of pains in the head and limbs, which never lasted long, suddenly experienced, in the autumn of 1825, a violent pain, shooting from the left temple to the eye and the side of the face: he ascribed it to cold. This pain lasted several days, then lessened, and reappeared from time to time without being sufficiently severe to induce the patient to seek medical aid. In about two months it suddenly increased in intensity, occupying the eye particularly, with a feeling as if it would pass out of the orbit. F. P. now discovered that he was blind with that eye, and applied to a neighboring physician, whose treatment, continued for two months, did no good. The pain, however, was no longer continual: it assumed a somewhat periodical character, leaving the patient easy for some hours of the day. At the end of the following six months the pain increased, the cheek swelled, some spoonfuls of bloody matter were discharged by a spontaneous opening in the lower eyelid, after which the swelling subsided, and the pains nearly disappeared, although the blindness remained complete. The discharge was renewed from time to time during the following six months, and there was no great suffering. But in the autumn and winter (1826) the pain, particularly in the eye, became so violent that F. P. came to Wilna in the beginning of 1827, determined to have the organ extirpated, if no other remedy could be found. Prof. Galezowski found the eye totally insensible to light, with the pupil dilated, and no other visible alteration. The pain, not then so severe, consisted in violent occasional pricking or darting sensations in the left temple, and parts round the eye. There was discharge from the lower evelid. The first molar tooth of the left side was carious; it had not caused much uneasiness; and the toothache, when it existed, had not coincided with the pains in the temple and eye. The Professor determined on removing this tooth, and having done so, was surprised to see a small foreign body at the extremity of the fang. When drawn out, it proved to be a small splinter of wood, about three lines in length, which had traversed the centre of the tooth and had probably been introduced in picking the teeth. A probe was passed from the socket into the antrum, from which a few drops of thin purulent fluid escaped. The pain ceased almost entirely, and on the same evening the eye began to be sensible to light. Vision gradually improved, so that the ninth day, the patient could see as well with the left eye as with the right, after a blindness of thirteen months; on the eleventh day he left Wilna to return to his family.

"I had," says Sir William, "the pleasure of becoming acquainted with Professor Galezowski when he visited England subsequent to this occurrence. He showed me the tooth and the splinter of wood, and he pointed out two circumstances in the case as particularly worthy of notice; first, that the entrance of the foreign body into the tooth had not been noticed at the time; and secondly, that a local irritation, hardly perceived at the seat of injury, should have effected the ramifications of the nervus trigeminus so violently as to produce amaurosis."

A similar case, in which an amaurotic condition of the eyes was improved by the removal of the stopping from a carious tooth, and was subsequently entirely cured by the removal of the tooth, has been reported by Dr. M. F. De Witt. A strong and healthy man, æt. thirty-one, discovered that the right eye was blind. No pain, no photopsiæ had been experienced. He could distinguish light from darkness with the affected eye, but that was all. He was unable to give any account of the cause of the attack, but after a while he remembered that two months before losing his vision several teeth had been stopped. He had often felt pain near the first molar tooth of the right side, and he had often also experienced pain and tenderness of the gums, and abscesses had formed which he had himself opened with a penknife. On examination the tooth was found to be reduced to a shell, with a fistulous opening leading to the alveolus. Dr. de Witt, suspecting irritation of the fifth nerve proceeding from the teeth, removed the stopping in order to obtain a counter-opening, and to permit the fistulous orifice to close and to arrest the irritation. The immediate effect was that the gum ceased to be sore, and the visual power began to improve. After three weeks, when the sharpness of vision had greatly improved, the gums to be sore, and coincidently the acuteness of vision diminished. The affected tooth was extracted, and improvement then again took place, and vision became restored almost to its normal amount, though still not equal to that of the other. The fang of the tooth was filled with pus.

The relations of the teeth to glaucoma have been considered by several writers, but especially by Hermann Schmidt (*Archiv. f. Ophthal.*, xix., i, 107), and by Priestley Smith, ("Glaucoma: its causes, etc., 1879, p. 10, *et seq.*) whose remarks upon the subject are very sensible.

Glaucoma is a condition of the eye in which the humors of the eye are secreted in larger quantity than they can be taken up by the absorbents; the tension of the eye is therefore increased, it becomes hard and exquisitely tender, then extremely painful; the vessels of the retina are often seen to pulsate, and finally, after a period of suffering of variable duration, it quiets down, but the disc remains cupped, and the vision is altogether lost, or permanently and seriously impaired. I may say, in passing, that the cases of blindness which come before the ophthalmic surgeon from this cause are amongst the most melancholy that he sees—melancholy because he feels that in the majority of cases, if the surgeon in attendance, instead of being misled by the specious term "neuralgia," had recognized the disease and insisted on the performance of iridectomy during the first two or three days of pain, sight would have been perfectly preserved.

In regard to the pathology of this disease it is enough to state here that the increased hardness or tension of the eye is due in part to hyper-secretion, and in part to imperfect drainage of the aqueous fluid. How are these conditions produced? The imperfect drainage we know is produced by a narrowing of the depth of the anterior chamber, which interferes with the entrance of the aqueous humor into the canal of Schlemm and its passage outwards, and this is the result of the approximation of the iris to the cornea, either by enlargement of the lens, as Priestley Smith thinks, or by the formation of adhesions between the iris and cornea, as others believe.

But is there any evidence of hyper-secretion, and if there be, is the fifth nerve the exciting or even a predisposing cause?

It is certain that pain in the region of one or other of the branches of the fifth is a precursor of glaucoma in a large number of cases; and the presence or absence of ciliary neuralgia is mentioned in the report of almost every glaucomatous case.

But the most convincing evidence of the point in question is that which is derived from the experiments of Von Hippel and Gruenhagen. These observers found that whilst the normal tension of the contents of the eyeball is about one inch in mercury, if the aorta were compressed the tension rose about three inches of mercury, and if now the fifth nerve was stimulated the pressure rose to as much as eight inches of mercury, and at the same time well-marked pulsation were observed. Even when the stimulation of the fifth was discontinued the tension was permanently increased, and the augmentation was perceptible even after death. It is not clear whether the trigeminus here acts as a true secreto-motory nerve in the same sense that stimulation of the chorda tympani causes increased activity of the salivary secretion, or whether it acts simply by causing dilatation of the blood vessels, and thus leading to an increased supply of blood to the organ. The determination of this point, however, matters little from our present point of view. It is sufficient that irritation of the fifth causes marked increase in the tension of the eye, and it is easy to understand that in all cases where from physical changes consequent on gouty or rheumatic inflammation of the iris, the eye is ripe for an outburst of glaucoma, the spark may be supplied by the irritation of a carious tooth.

It is but right to add, however, that Priestley Smith has made a series of tonometrical experiments at the Dental Hospital in a series of cases of toothache. The results he obtained were not very decisive, though he arrived at the conclusion that in young persons toothache rarely, if ever causes a decided rise of tension. He estimated the tension in sixteen persons suffering at the moment or recently from severe pains in the teeth, and found on the whole little or no appreciable difference.

The writing of this paper has recalled to my memory various cases which were in the highest degree suggestive of the teeth being the starting point of the trouble, and to which I regret extremely I did not direct a larger amount of care and attention at a period when it might have proved of service. To give one only:—

Mrs. S., æt. thirty-two, a stout, ruddy-complexioned woman, suffered in 1878 1879 from colored halœs round lights, and the general symptoms threatening glaucoma. For these there was no apparent cause. She was healthy, in easy circumstances, and her habit of body and general manner of life were thoroughly normal and good. She, however, suffered severely from toothache. A particular tooth would begin to ache, without apparent decay of the crown. After enduring the pain for some time she would have the tooth extracted, and an abscess was always found to exist at the root. In March, 1880, after a fall which intensified all the symptoms, an iridectomy was performed on the eye. The wound did not heal kindly, and a cystoid cicatrix was the result. The vision gradually deteriorated, and ultimately was entirely lost.

She now had two miscarriages, and some circumstances occurred in the family causing much mental distress and depression of spirits, with frequent shedding of tears. I saw her first about eighteen months after the operation had been done.

The right eye was now the seat of trouble, but the vision was still very good, and with appropriate glasses (+ 1 D) could be rendered perfect. Three weeks previously she had awaked with violent pain, which lasted for three days; she saw bright lights, and the eye was hard, and the optic disc was white and cupped. She was told she had glaucoma, and that if the vision deteriorated she must submit to an operation. It did deteriorate rapidly, and I performed an iridectomy in the hope of saving vision, but the wound passed through the same stages as with the previous operation, and a cystoid cicatrix was formed with persistent high tension of the globe of the eye. I saw her only a few days ago with complete blindness of the left eye, and only perception of very bright light in the right eye. She again repeated to me the story of the teeth, and I could not but think that if a similar case appeared before me now, instead of trying iridectomy—which was here a signal failure, even when performed by two different operators, and which resisted eserine, and all the usual methods of reducing tension—I should at once have every tooth carefully and thoroughly inspected by an experienced dental surgeon. And I would ask whether such a case is not adapted for the removal and replantation of teeth, if these, after extraction, were found to be sound.

In conclusion, then I think it may be laid down as a maxim to be generally observed, that in all cases of threatening glaucoma, especially when this is associated with ciliary neurosis and obscure pains in the temples and maxillary orbital regions—in all cases of mydriasis, and probably of myosis, originating without apparent causes—in all cases of sudden paralysis of either of the orbital muscles, or of loss of sensation in the absence of cerebral symptoms—in all cases of phlyctenular disease of the conjunctiva—in all cases of ulcers of the cornea resisting ordinary treatment—in all cases of sudden failure of acoommodation especially in young children—and finally, in cases in exophthalmia, the condition of the teeth should at least be examined, and if faulty conditions present themselver these should be at once rectified, and then one at least of the possible causes of each of these diseases will be removed.

EXCISION OF INDURATED SORES.—In a paper reprinted from the *Berliner Klin. Wochensch.*, No. 23, 1883, Dr. Oscar Lassar, of Berlin, states that he has excised the initial lesion of syphilis forty-eight times, the lymphatic glands in all cases being apparently unaffected at the time of the operation. When the sore was superficial, it was removed with one stroke of a pair of scissors after cleansing with a solution of carbolic acid or corrosive sublimate. When the induration extended deeply, the sharp spoon was used as well as or instead of scissors. The wound was then closed with catgut sutures and dressed with iodoform. Primary union was obtained in most cases. In some, firm œdema of the prepuce occurred; and in some, induration reappeared in the wound. In the latter case, excision was repeated. Thirty-seven of the cases occurred between October, 1878, and August, 1882; and, of these, nineteen disappeared from observation too early for any conclusion to be formed as to the result. Of the remaining eighteen patients, thirteen had general symptoms of syphilis in due course, but in no case were they severe. Lastly, five patients showed no signs of constitutional syphilis. The first of these was a man whose sore was excised in October, 1878, twenty-six days after coitis. This patient has presented himself regularly from month to month for examination and has remained free from any further signs of syphilis up to the present time. In 1879 two patients were treated by excision, and they also have been under observation ever since. The scars in both remained supple. In one, the time after contagion was not ascertained; in the other, the sore was excised during the fourth week. In the fourth case (September, 1881), induration reappeared immediately after the wound had healed. Excision was then performed a second time. This patient also has been seen from time to time, and has shown no further signs. The fifth case occurred in January, 1882, and also has been repeatedly examined since, without any signs of general syphilis being discovered.—*London Medical Record.*

THE ETIOLOGY AND PATHOLOGY OF GONORRHEA. — Dr. Max Bockhart, of Würzburg, begins a paper on this subject (*Viertelj. für Derm. and Syph.*, Heft i., 1883) by referring to the discovery of 'gonococci' by Neisser in 1879. He then goes on to state that since 1880 he and Dr. Wolff have examined 258 cases of acute and chronic urethritis, and that in all of them gonococci (as described by Neisser) were found. Bockhart also found them in fourteen cases of purulent vaginitis with urethritis, and in two cases of purulent catarrh of the cervix uteri. In one case of muco-purulent discharge of eleven months' duration, gonococci were found in small numbers. In all the chronic cases, the organisms were few in number. In a case of catheterism with an instrument soiled with phlegmonous pus, a scanty purulent discharge appeared in twenty-four hours; but in this case, although other organisms were found, there were no gonococci. In gonorrheal vaginitis, gonococci were found with other micrococci and bacteria. A case of experimental inoculation of gonococci is then recorded in full detail. A culture-fluid containing the organisms (fourth generation) was injected into the urethra of a man, aged 46, who was suffering from advanced dementia paralytica, and who for several months had passed urine and feces under him. The urethra is said to have been healthy at the time of the experiment. The fluid was injected on July 10, 1882; on the 12th the orifice of the urethra was red, and a drop of secretion pressed out contained neither pus-cells nor gonococci; on the 18th pneumonia was diagnosed, and on the 20th the man died. From July 12 to July 19, daily microscopical examinations were made; and in all the specimens, except that above mentioned, pus-cells and gonococci in large numbers were present. After death, the urethra and bladder were found to be inflamed, and the right kidney contained several abscesses. The pus from these abscesses also contained numerous gonococci, whence the author concludes that they were due to extension of the gonorrheal inflammation set up by the injection of the culture fluid. The patient had never been catheterized. The urethra having been hardened in alcohol, sections of the fossa navicularis showed the presence of gonococci in the deeper lymphatics and blood vessels. From this case the author concludes:

1. That the organisms called by Neisser *gonococci* are the pathogenic bacteria of gonorrhea.
2. That gonorrhea is a local specific inflammation which is due to the presence of gonococci, and is characterized by infiltration of the mucous and cavernous tissues of the fore part of the urethra with migratory cells, some of which contain gonococci.

The various complications of gonorrhea the author would also explain by the further diffusion of gonococci; *e.g.*, inflammation of the cord and epididymis he supposes to be due to spreading of the organisms to the vasa deferentia, and gonorrheal arthritis to their extension through the circulation to the synovial membrane of the joint affected.—*Medical Record.*

TREATMENT OF EXOPHTHALMIC GOITRE. From an experience of upward of seventy cases, and fortified by the unanimous observations of Von Dusch, Eulenberg, Meyer, Erb, and others, Dr. Chvostek

(*Centralblatt für Clin. Med.*) is led to regard the rational employment of galvanism as the most important part of the treatment of Basedow's disease. He recommends the following method to be pursued: (1) the ascending constant current applied to the cervical sympathetic, on each side, for at the most one minute; (2) the same to the spinal cord (the anode at about the fifth dorsal spine, the cathode high up in the cervical region); (3) through the occiput (one pole at each mastoid process), and in certain cases also through the temples, a constant current, for at the longest one minute, and so weak that the patient can feel but the slightest sensation of burning. Sometimes also local galvanization of the thyroid gland with a weak constant current for about four minutes, the current to be reversed at the end of each minute. The applications should be made every day if possible. As a rule very good results were obtained, even in the most severe cases a cure or marked improvement being recorded. In three cases death resulted from excessive anemia or complications.—*The Practitioner.*

PATHOGNOMONIC SIGN OF FRACTURE OF THE NECK OF THE FEMUR.—Prof. Bezzi, after showing, in the *Spallanzani*, the difficulties and uncertainties which often attend the diagnosis of this accident, observes that at the Milan Hospital a traditional practice exists of exploring, whenever fracture of the neck of the femur is suspected, the short space between the trochanter and the crest of the ilium. In place of the considerable resistance which is there produced in the sound limb through the tension of the tensor fasciæ latæ there is found, when the injury has occurred, a deep depression, due evidently to the diminution in the tension of this muscle, owing to the approximation of its points of attachment.—*Presse Méd. Belge.*

SUCCESSFUL RESECTION OF THE PYLORUS.—The *Wiener Medicinische Wochenschrift* contains an account of a successful resection of the pylorus, and some observations on a gastroscopic symptom of cancer of the stomach, by Professor Mikulicz, of Cracow. The patient was a peasant, 25 years of age, the mother of three healthy children. Up to five months previously she had been in perfect health, but since that time had suffered from bad appetite, and discomfort and pain in the stomach occurring some hours after food. For the last three months she had, in addition, suffered from repeated vomiting. On admission to the Cracow Hospital, on February 9, 1883, her condition was as follows: Nutrition fairly good; skin and mucous membranes pale; both breasts swollen, red, and painful to pressure (the patient having only just weaned her last child), but not diseased; abdomen somewhat distended; abdominal walls thin; in the epigastric region a hard, apparently movable tumor, the size of a goose's egg, and painful to pressure, was made out. The stomach was considerably distended, its lower border reaching to three finger's breadth below the navel. Bowels constipated; urine normal. The diagnosis of carcinomatous stricture of the pylorus was made. For the two days preceding the operation, which was performed on February 22, the patient had only fluid diet, and immediately before it the stomach was washed out with warm water. The operation was performed in the usual manner, and lasted two hours and a half. The tumor was freely movable. No spray was used, and iodoform dressing without drainage was employed. The portion removed measured three inches in length, and included, of course, the pyloric opening, which was found to be so narrowed that a little finger could scarcely be passed through it. Microscopic examination showed the growth to be a colloid cancer. An enlarged lymphatic gland removed at the same time showed no trace of cancer-elements. There was very little shock after the operation, the pulse the same evening being 72, and the temperature 98.5°. On the evening of the second day the patient vomited twice, and several times on the third, fourth, and fifth days; but on the sixth day the vomiting ceased. The vomited matter consisted each time of mucus without any admixture of bile. The pulse and temperature remained normal throughout, except on the fifth day, when the temperature reached 103.5° and the pulse 112, and on the evening of that day the patient had an offensive diarrhœa. During the first five days she took cold water by the mouth, and was fed by the rectum with peptonized enemata. On the sixth day she had soup and eggs, and on the eighth solid food. On the twentieth day the dimensions of the stomach were normal, and the patient suffered from no gastric troubles. On March

22, the twenty-eighth day after the operation, she left the hospital in good health.

From a consideration of the absence of all signs of peritonitis in the case, from the course which the wound took, healing by first intention, from the considerable dilatation of the stomach that existed from the third to the fifth day, and from the character of the vomited matter, Mikulicz considers that the vomiting was due to a complete but temporary obstruction of the new pyloric orifice. The cause of the obstruction he thinks might have been due to an inflammatory swelling of the wound at the pylorus, or the dilatation of the stomach and the weakness of its walls might be insufficient to propel the contents through the new orifice. According to Mikulicz, thirty-two cases of resection of the pylorus have been published, of which twenty-four ended fatally and eight recovered. Of the eight successful cases, two were operated upon for ulcer of the stomach, and six for cancer. Of the twenty-four unsuccessful cases, twenty-three were for cancer, and one for ulcer. In twenty-one of the twenty-four fatal cases the cause of death is given. Fifteen died of collapse, one of inanition, and five of peritonitis,—the peritonitis in two cases being due to perforation at the seat of union, and in two cases to gangrene of the transverse colon. These four fatal cases of peritonitis, and the case of inanition, were due to causes which at the present time might be avoided. The large number of cases which died of collapse, Mikulicz considers with Billroth to be due to the general marasmic condition of the patients, and to the severity of the operation in those cases where the tumor was large and had formed adhesions to neighboring parts. Only cases where the patient is well nourished, and the tumor of moderate size and movable, are, he considers, suitable for operation. The future of resection of the pylorus depends, he holds, on improvement in the diagnosis of cancer of the stomach at an early stage, and he looks to the general use of the "gastroscope" as likely to afford valuable aid in that direction. In a large number of cases of cancer of the stomach examined by him he has found certain appearances and symptoms which may be of use in diagnosis. In a healthy man, the pylorus, examined "gastroscopically," appears as a longitudinal, oval, or triangular slit, or a circular opening surrounded by close, bright-red mucous projections and folds. Owing to the irritation caused by the instrument and to the inflation, the opening is continually changing its shape, and the folds moving with each contraction of the muscular wall. The fundus of the stomach, on the contrary, remains stationary. In cases of cancer of the stomach he has noticed that the coarse folds are either entirely wanting, the walls being quite smooth, or are only slightly marked; and, secondly, that the movements are altogether wanting. Also in certain cases he has noticed considerable pallor of the pylorus; in others quite a dark cyanotic appearance. In one case the submucous veins were dilated, and of a deep-blue color. No ulceration of the cancerous mass has he ever seen. The explanation of these changes he considers to be that, the walls of the stomach being infiltrated by cancer, the movable organ is changed into a comparatively rigid tube, in which the formation of folds and the changes in shape cannot occur.—*Medical Times and Gazette.*

In Memoriam.

JAMES KERR, M. D.

WHEREAS, The messenger, death, has claimed as one of its victims our worthy and esteemed fellow-member and ex-president, Dr. James Kerr.

Resolved, That we, the members of the Pittsburgh S. S. Medical Society, attest our sincere sorrow at the death of Dr. Kerr, and our high appreciation of his eminent attainments as a physician and surgeon.

Resolved, That as a Society, and as individual members, we shall keenly miss his genial features, his earnest sympathizing friendship as well as his wise, efficient counsel.

Resolved, That in his death the community has lost a good citizen and a zealous, skillful and painstaking physician.

Resolved, That we extend to the family of deceased our heartfelt sympathy.

Resolved, That a copy of these resolutions be spread upon the minutes of this society and one be sent to the family of deceased.

JOHN MILTON DUFF,
A. G. CASE,
J. D. THOMAS,
A. D. BREWSTER.
} *Committe.*

Class of 1843, Ohio Med. College.
Pittsburgh, Pa., Dec. 20, 1883.

Original Articles.

PSORIASIS.

By CUNDELL-JULER, M.D., LL.B.,
Cincinnati, O.

Psoriasis, from *Psora*, to itch, was a name formerly applied by the Greeks to eczema. Sir Erasmus Wilson limited its meaning to the chronic form of eczema or lichen agrius. Modern dermatologists use the term to signify the disease formerly known as lepra or common dry tetter.

Psoriasis appears upon the surface of the body in the form of dry white scales, constituting slightly elevated patches, varying in size from a pin's point to several inches in circumference, resting upon a perfectly smooth base. It is attended with inflammation, imparting a reddish-brown edging to the eruption, some amount of itching and the shedding of furfuraceous, semitransparent scales. It is a chronic, noncontagious affection, which may attack the same person at different times on various regions of the body, showing a preference for the extensor surfaces. It especially attacks the elbows and knees and less frequently the hips. It is usually difficult of cure.

It is a very prevalent disease, both in this country and in Europe. Dr. Duhring, of Philadelphia, ranks it in frequency next to eczema and diseases of the sebaceous glands. In his dispensary practice he computes that in every one thousand cases of skin disease brought under his treatment sixty of them are psoriasis. Dr. Jas. C. White, of Harvard University, in comparing the frequency of skin diseases by the tables issued in different civilized countries, finds that in dispensary practice America claims 3.7 per cent.; Scotland, 7.25 per cent.; Ireland, 2.5 per cent.; and Austria, 2.2 per cent.; while in private cases the numbers stand, America, 3.9 per cent.; Scotland, 10.6 per cent.; and England, 6.3 per cent. It therefore follows that psoriasis commands a special claim to our consideration.

SYMPTOMS.—The advent of the eruption is denoted by some fever and a sense of malaise, with considerable itching of the skin. Small brick-red colored spots appear situated in the perspiratory tubes or cutaneous follicles and are distributed over the body. These slightly raised spots, tipped with a pearl-like scale, that is constantly reforming, do not long remain as psoriasis punctata, but increasing in size, the red surface is seen puckered at its edges and covered with milk or mortar colored scales which, rising above the surface, have the similitude of drops. This form, called psoriasis guttata, passes slowly into another shape and assumes the size of coins of different values. These clusters of imbricated scales, based upon elevated surfaces of a dull-red or coppery color, acquire the designation of *psoriasis mummularis*. These hyperæmic patches, attended with the usual accompaniments of inflammation, as burning, itching, swelling and the rapid exfoliation of scales, may remain some time in this condition, but under appropriate treatment the redness and swelling subside in the centres, leaving the skin in its normal condition. While the psoriasis is increasing in the periphery, leaving the centres free of the disease, which is often the case, the infiltrated reddened border changes the figure of the eruption into the form of a series of rings. These rings now claiming the name of *psoriasis annulare* or *circinati*, may while extending peripherally and coalescing with neighboring rings, which spread out to meet them, break up by the continuation of the healing process into fantastic shapes which acquire the designation of psoriasis gyrata. Instead, however, of enlarging centrifugally, the tendency is to heal in the circumference and pile up scales in the centre. Large masses may appear upon the buttocks or thighs and along the shafts of the tibia and ulnars. Those upon the gluteal region, by cracking, become very painful and irritating to the patient. The disease in this form is usually influenced by a regional law and selects the elbows and knees in preference to other parts. In psoriasis this is a sovereign fact for whatever may have been the doubt as to the nature of the disease when distributed over the body, its appearance upon these sites unequivocally declares the character of the affection. Islets of healthy skin breaking through the dense scales, leaving raised red tessalated edges, constitute what is known as psoriasis vulgaris or lepraformis. Sometimes the entire body, face, scalp and scrotum and even the penis,

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[1] Practical Treatise on Diseases of the Skin. By Louis A. Duhring, M.D. 1877. Page 296.

[2] Transactions of the International Medical Congress, Philadelphia. 1876. Page 669.

as well as the hands and feet are covered. This is denominated *psoriasis diffusa* or *universalis.* When this condition, in spite of all treatment, persists year after year, the disease acquires the name of *psoriasis inveterata.*

Peculiarities in certain phases of the disorder have also been described. Thus, perchance, a portion of the hot, moist, tender and itching derma is accompanied by a fluid secretion. This form constitutes the *psoriasis eczemateux* of Devergie. Another condition, where the heaped-up scales are elevated into dry crusts, McCall Anderson has named *psoriasis rupioides.* In weakly constituted persons a few thin scales, situated upon a livid surface, which secretes a serous fluid that dries into scabs is the *lepra* or *psoriasis nigricans* of Willan. The psoriasis capitis or unquium are merely terms applied when the affection is confined to the head or nails.

Diagnosis.—If it be borne in mind that psoriasis is a dry scaly tetter, seated upon well defined and slightly raised patches, with usually depressed centres, of various sizes, distributed here and there over the body, the skin of which is otherwise quite healthy and even fair in appearance, no mistake could ordinarily arise in at once rightly naming the disorder and yet the diagnosis is not always without difficulty. According to Dr. Tilbury Fox it has been confounded in its local forms with pityriasis, eczema squamosum, tinea carcinata, lupus erythematosus, and when general with pemphigus folicacus, pityriasis rubra, lichen planus and the squamous syphiloderm. It may also be mistaken for seborrhœa and lichen circumscriptus. It is therefore necessary to call attention briefly to these several affections.

Pityriasis is a very slight branny exfoliation of the skin succeeding the blush of erythema, without any elevation of the skin or imbricated scales. *Eczema squamosum* is distinguished by having at one time been moist, the itching is more severe and constant than in psoriasis and the scales of eczema at one edge merge into healthy skin. This is best observed when trying to raise the scales, which in psoriasis leave the affected derma well defined, smooth and pinkish in color and quite dry, while in eczema the scales have to be torn away or broken apart. In *tinea circinata* we have a parasitic disease with a history of contagion, children, probably, neighboring with the patient are affected by it. The disease has no symmetrical arrangement and there is less infiltration and redness, the scales also are coarser and less numerous than happens in psoriasis circinata.

In *lupus erythematosus* the face is mostly affected. Its character is more lasting, the scabs in place of being white are yellow and the ducts of the sebaceous glands are dilated, accompanying the deep red color may sometimes be seen scars which mark the loss of tissue.

Pemphigus folicacus, which is a disease not very frequently seen, shows the presence of bullæ, while the flakes of cuticle look like the shedding of skin following small blisters. This exfoliation of the cuticle should not be mistaken for the dry pearl-like imbricated scales of psoriasis.

Pityriasis rubra attacks the entire body, the redness of the surface is very distinct and without any thickening of the skin, the exfoliation of small flakes is continuous.

Seborrhœa is usually confined to the scalp involving the whole surface. It may, however, appear upon the body, back and chest. The scales are smaller than in psoriasis and greasy in character, while the skin remains unfiltrated.

Lichen circumscriptus with its round clusters of papules fading in the centre may at first sight be mistaken for psoriasis circinata in process of cure, but in this latter disease the skin denuded of its scales is quite smooth and free of pimples.

In all these varieties of cutaneous disorders, when forming a diagnosis always look away from the general eruption to the knees, elbows or other parts, where the distinctive character of psoriasis, is more perfectly revealed.

Dermatologists are sure to be brought, when deciphering cutaneous disorders, *vis à vis* with syphilis. Syphilis, when present, shadows every disease known to medicine. The papulo-squamous syphiloderm simulates psoriasis to such a degree that the diagnosis between the two affections becomes very difficult. Psoriasis, it must be remembered, appears alike on both sides of the body, being bilateral; in syphilis squamosa it is unilateral. Psoriasis is general in distribution and frequent in its visitations. Its stay is usually prolonged. Syphilis squamosa is limited in area and erratic in character; unlike psoriasis it seldom appears before twenty years of age;

it has a history, or brings with it some other evidence of its true character.

Dr. Tilbury Fox has observed that "untypical psoriasis as regards naked-eye features may be accounted for by the occurrence of psoriasis in syphilized subjects."

The evidence of taint in the system is seen in the small circular generally distributed patches and unusual staining of the skin or the formation of dark crusts about the legs with a tendency to ulceration or the formation of tubercles or knots in any part, especially about the palms of the hands or soles of the feet. This condition may be a guide to successful treatment or lead to the administration of the iodide of mercury or iodide of potassium, which subdues the syphiloderm, but not the psoriasis.

Persons having psoriasis may also have skin disease of another form, as eczema, pityriasis, epithelioma, etc. But lingual and buccal psoriasis, from which true epithelioma is evolved, is rarely seen in persons suffering from ordinary psoriasis. There is sometimes, as Dr. Piffard, of New York, says, a tendency of psoriasis passing into the vagina simulating eczema and giving rise to desquamative leucorrhœa.(1)

ETIOLOGY. — Psoriasis appears without any known cause. The occupants of the palace are not more secure from its attack than dwellers in the hovel. Indeed it assails the well-to-do even more than the lowly. It is less prevalent in the very young or aged than in the adolescent and adult. It attacks alike the robust and weakly, the male as well as the female, the active as well as the sedentary. Its appearance upon the skin may have been preceded by gout, rheumatism, bronchitis or asthma—a class of diseases which seem to bear some hitherto inexplicable relation to this disorder and usually occur during the intermissions of the eruption. The cause of psoriasis has been discussed by writers in different countries without any satisfactory result. Some have maintained that it is associated with a syphilitic taint, but I am of the opinion, expressed by Bulkley, that true psoriasis, the lepra of Willan, has nothing to do with syphilis—not even in the way of a later hereditary transmission. Other writers claim an hereditary predisposition, as some persons subjected to warts or mother marks may propagate in their children a predisposition to cancer, and Duhring says "unquestionably there exists in some individuals a predisposition to the affection which may be either inherited or developed from some inappreciable cause." I have myself observed that a temporary exposure to a damp cold on board a steam vessel or in crossing the Cincinnati suspension bridge, when the system has been previously deprived of its vis nervosa by over fatigue, has been followed by the appearance of psoriasis.

Numerous illustrative cases of the foregoing remarks present themselves in practice grouped as follows:

Mary Ann S., aged 42, married, health delicate, stomach unstaple, suffers with headache; has one child. Has had psoriasis guttata forty years. Applied July 29. Oct. 12, much improved.

Maud S., aged four years, a fat well-made child, health good. Eight months since there appeared upon her legs small, white, scaly patches, which were followed by a similar eruption upon the arms and body, till finally the disease became general. None of the spots exceeded the size of a dime. Cause unknown, no relative had it. Applied November 4th. November 18th, well.

Benjamin F., aged 52, health good, tall strong man, never had syphilis. His father had a scaly eruption, which completely covered him. It was not till four years ago that psoriasis first made its appearance upon his body. Now he is enveloped by the disease and walks only with great difficulty. In three week's time by taking Valangin's solution of arsenic the scales fell away and left him cured.

Samuel L., aged 34, health good, works a good deal in water. Since the commencement of the attack, ten years ago, has had upon his back a number of round and irregular-shaped scaly patches the size of a half-dollar without much itching. The margins are red and slightly raised.

Eliza A., aged 18, tall and stout, but pale and weakly in appearance. Bowels and catamenia regular. Four years ago yellow-brownish-red spots, tipped with darkish dull white scales, made their appearance and now covering the legs, arms and chest. Cause unknown.

Mary R., aged 46, health good, bowels and catamenia regular. Has had syphilis, suffers with pain in the head and deafness,

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1 An Elementary Treatise on Diseases of the Skin. Henry G. Piffard. 1876.

Has psoriasis confined to elbows and knees.

Eliza H., aged 45, married. After the cessation of the menses, eighteen months ago, a general rash showed itself over the body. This was succeeded by a scaly eruption which extended to the knees and elbows.

Emma R., aged 30, married, health good. Has had, since birth, general psoriasis extending over the arms, legs and body. Her sister had the disease around her mouth, her father had it confined to the hands.

Miss Clark, aged 19, single, health fair. Bowels and catamenia regular. Florid complexion. Her father had psoriasis from childhood, which was relieved with lead lotion. It first appeared upon her arms twelve years ago but soon became more severe on the legs especially below the knees.

Elizabeth W., aged 41. Has had general psoriasis for some years. She inherited it from her father's family. The back, body, arms, thighs and legs are covered with a mass of raised scales. She is encased as in a coat of mail. Large patches of scales fall from the arms and legs and large white flakes fall off the body leaving the skin extremely red. The skin itches, cracks and bleeds. Applied Aug. 29th. On November 21st there remained a slight scaliness on the forearms and legs.

Edward H., aged 23, health good, urine and bowels natural. Twenty years ago psoriasis showed itself and is now present over the body, thighs, legs and arms. The palms of the hands rough and scaly. Was two years under treatment when the eruption disappeared. It came again and the second time was vanquished. After a long interval small scaly spots the size of peas made a staying visit, being most marked on the left side of the face. The hands were horny. His child, five months of age, is unaffected.

Charles S., aged 45, states that a year ago he observed white scaly-patches appearing on the knees and elbows. These patches extended and were followed by others on different parts of the body—as the chest, waist, thighs, legs and below the elbows. A large, red, scaly patch covered the middle of the tibia. His mother suffers from a similar affection. Has four children quite healthy ranging in age from seven months to fourteen years. After treatment, as the scales became thinner, the itching became more troublesome.

Harvey Hersey, aged 12. Health good. Psoriasis dawned upon him eighteen months ago, in the form of small scaly spots, which rapidly developed into psoriasis vulgaris. His mother suffered from a like affection.

Alfred Bridal, aged 30, fine, tall, healthy man. Small red, scaly, itching spots appeared three years ago upon his face and this has since been followed by many small scaly spots, being distributed over the arms and legs. His sister has a similar affection. Applied January 21. November, cured.

Sarah Reid, aged 22 years, very weakly and nervous, B. and C. regular. States that three years ago, small spots came upon her arms and legs which increased in size and joined others till the entire limbs and arms were covered. Month since, when she was married, several red circles showed themselves upon her face. One scaly patch of psoriasis the size of half a dollar with slightly elevated border is present on the right cheek. No relative ever had the like affection.

Charles Stevens, aged 4 years, fat, well made boy, health good; eight months ago, small, white scaly places appearing upon the legs, extended to the arms and body, becoming general, but none larger than a dime in circumference. Cause unknown; no relative afflicted with it. Applied, Nov. 4th, Valangin's solution and aperient powders wrought a cure Nov. 18th.

Henry M., health good, aged 5 months, has had general psoriasis ten weeks following vaccination.

John V., aged 43, health good, has lived in India. Nine years ago the scalp, which is thinly supplied with hair, presented a bright red scaly appearance. The head is covered with loose, yellowish scales, which sometimes disappear. The disease is confined to the scalp, but the red places in the head encroach upon the temples and forehead leaving a sharply defined border of yellowish-brown color.

Sophia M., aged 30, single, health good, urine turbid. For twelve years the head has been covered with psoriasis alphoides. Dark tresses of black hair help to hide from view the mass of white scales in which they are imbedded.

Ellen Croxon, aged 32, married, health good, after a long sea voyage, twelve years ago, small scaly, more or less circular spots covered her body. Her children have a roughness of the skin of the face, which she thinks is premonotory of the disease.

Emma C., aged 31, health good. Seventeen years ago, without any known cause, a series of small red, scaly spots gradually extending in circumference and coalescing with neighboring patches first appeared on the head, then on the sides of chest, next on the knees and elbows, and from thence spread along the arms and legs. The skin, of a dull, red color, is covered with large, thick, yellowish white flakes of desquamating epidermis. Her entire body at the present time, as well as the extremities is covered with thick desquamating yellowish scales attended with intense itching. The psoriasis is aggravated at the monthly flow and the skin is more irritable. The tongue and mouth exhibit a similar disease and are sore. Staying at the seaside made her much worse. Applied July 15th, and after two years' treatment there remained one large patch on the center of the left leg which is red, scaly and itching, and a few small red spots on the arms.

Rhoda W., aged 31, since grieving at the death of her husband, which occurred a year go, she has had an eruption of small, irregular, copper colored patches on the chin, face, arms, and body. These are covered with pearly scales being depressed in the center and extending in the circumference. The labia are ulcerated and swollen. Applied September 3rd, cured October 13th.

William R., aged 28, five years ago, had sore on penis the year following, the face and shoulders had a large number of small scaly spots distributed over them. He had also acne upon the face and chest.

Mary Ann B., aged 27, health fair. The left eye was destroyed at birth; hands and feet have always been red and scaly. About six months ago a place the size of a dollar, of yellow-reddish color, appeared on the right side of the head just above the ear, which has since been extending. This eruption, which was covered with dirty looking yellow furfuraceous scales affects the head as well as the right temple, and is increasing upon the side of the face and the upper part of the entire forehead. It has a syphilitic appearance, being of a bright, peculiar, coppery-red color and unattended with itching.

Ann H., aged 37, single, B. and C., regular, had a primary sore seventeen years ago. For nearly sixteen years a scaly eruption has spread itself over the chest, abdomen and legs. After eight months treatment there remained a discoloration of the chest and groin that had the appearance of pityriasis lutea.

William Baker, aged 45, health delicate, has ulcerated throat and palate red. Three years ago an eruption, having a brownish-yellow, coppery color and the size of a pea tipped with a scale, distributed itself over the chest. Applied Oct. 20; after administering the iodide of ammonia and Plummer's pills, the eruption disappeared from the chest, a few small scaly spots remained on the back.

Martha H., aged 48, single, health good, B. regular, C. stopped. The eruption which now envelopes the body, legs and arms in a dense mass of scales, first made its appearance 40 years ago upon the arms. It nearly disappears in summer and returns in autumn. After two years treatment there now remains, during the winter, but slight redness on the right leg over the tibia.

Jane B., aged 21, tall in figure, with dark hair and eyes, fat face, ruddy complexion, has sufferred from general psoriasis for ten summers, the eruption disappearing in the winter. The scaly spots which are mostly round in shape vary in size from two to six lines in width. Applied Sept. 22nd, on Nov. 13th there only remained a few reddish colored spots covered with a scale or two upon the right arm and leg.

Jane B., aged 43, married, health fair, C. ceased. Had rheumatism and cardialgia, followed two years ago by psoriasis, which has covered the head and legs.

James McC., aged 50, tanner, health good, but very excitable in manner, states that his father suffered from gout, and himself from dyspepsia, has been cut for fistula. The scaly eruptions of which he now complains came on as early as ten years of age, and has had it ever since. It is now general, and has the character of psoriasis vulgaris. The administration of arsenic relieves him of the disease, but he has to continue taking the medicine or it returns. His little girl, who has been treated for the eruption for five years, has a slight scaliness on the arm and head.

Charles Fox, aged 39, health good, strong looking but pale, has rheumatism and perspires freely, had sore on penis 20 years ago, children healthy, has psoriasis upon the arms and hands, small hard, dry, red and scaly patches the size of half a dollar on back of hands.

Emma B., aged 38, health good, husband a soldier, after washing her own clothes, her arms, body, chest, legs and face became thickly sprinkled with flat, red, round spots, the circumference of a pea. I counted sixty of them on one arm; each spot has its accompanying scales. A number of spots also appear among the hair. Never experienced any itching. I have seen a person in ten days covered in a similar manner.

Catherine S., aged 29, single, short in stature, strong, rosy, healthy looking and active. Seven years ago, large, red scaly patches appeared upon the legs and thighs. She applied for treatment on the 13th of November, and wished to be cured by the 19th, as she was going to be married. Her mother never had a similar eruption till after marriage, when it showed itself upon her elbows and knees.

Emma N., aged 30, married, health fair, suffers from psoriasis alphoides which came first upon the chest and arms three months ago and is slowly extending. After taking arsenic an irritable eruption of lichen arsenicale made its appearance over the trunk.

Edward F., aged 30, waiter, health good, has psoriasis covering the legs where the eruption is irregular and serpiginous in form. The scales are thick and shining; there are many small spots over the arms and body. His two brothers suffer in a similar manner.

Ben. Fisher, aged 52, health good, tall, strong man. His father was covered with a scaly eruption. Four years ago a similar eruption made its appearance upon his chest and arms, which now covers him with a thick coating of scales that render walking very difficult to him, commenced treatment September 26th, and so improved under the administration of arsenic, that October 16th, when he had to leave town, the skin, which was of a delicate pink color, was almost free of scales.

Harry H., aged 12, health good, eighteen months ago, appeared upon the arms and legs, in the form of psoriasis guttata, which extending, soon assumed the character of psoriasis vulgaris. His mother suffers from a like affection.

Caroline B., aged 30, health delicate, twenty years ago, psoriasis first attacked the elbows, but is now general. Father's sister alone has it.

Emma M., aged 30, married, has suffered from psoriasis since childhood. It first came upon the knees and elbows, but soon extended above and below those parts, while appearing in isolated patches on other parts of the body. When she applied for treatment, numerous dark, reddish patches the size of a quarter of a dollar, are distributed over the body; other patches are larger in size and have extended and coalesced with others, constituting upon the extremities large diseased surfaces.

Mary Ann W., aged 54, married, a large and strong looking woman, since the catamenia stopped, three years ago, has suffered from nervousness, and the appearance of patches of psoriasis in various sizes all over the body and extremities. They are irregular in form, red in color, and covered with loose, silvery scales. Upon the legs, there are large, hard, inelastic, board-like, irregularly formed red patches, partly covered with dark gray, thick, adherent scales. A niece suffers from a like affection.

A. G. McL., aged 43, pale, flabby, fat, but active person, has dyspepsia, otherwise health good, native of Canada, Thinks he had syphilis; has a number of dark, irritable, red elevations the size of peas, but without any itching. On removing the shirt, the scales being very thin and friable, a number of small white flakes descended in a perfect shower.

Martha C., aged 37, single, well-made and healthy. Fifteen years ago, several small patches of thick, white, strongly adhering scales appeared on the back of the head enclosing the hair which grew out of them. These places joined and formed a mass somewhat larger than the palm of the hand, attended by irritation to a slight degree, of the scalp. The scales are only removed with difficulty, and break down and crumble between the fingers. The hair follicles seem healthy and the head is covered by a large mass of dark, glossy hair, which hides the eruption.

Robt. Clemens, aged 16, pale, but strong looking boy, has impediment of speech, father is in lunatic asylum. Six months ago, large, scaly, red places appeared on legs and arms and round the chest, accompanied with much itching.

James D., aged 25, healthy looking, florid face, dark eyes, waiter, four years ago 'stayed with a young man in a large haunted house in Dublin. In the night his companion was pinched over his shoulders and back by some unknown person These parts were covered with dark bruises. Upon awaking he found himself hurt and a large yellow, bruised-like discoloration upon the middle third of the left leg. Since that time he has been affected with scaly patches upon his legs and one lately appearing upon his forehead an inch wide and three inches in circumference. This central red patch covered with raised scales, itches slightly. Has been treated for syphilis but never had it to his knowledge.

James M., aged 24, health good; two months ago psoriasis rapidly spread over the entire body, including arms, legs, chest, back and thighs. It was quickly cured by the administration of Valangins's solution.

Richard Patterson, aged 14, is a case I shall mention because of its stubborn and remarkable character. He was a lad well formed, regular features, but a sad, dreamy expression of the eyes. He had suffered six years from a general scaly condition of the body. From the crown of his head to the soles of his feet, not an inch of surface remained uncovered. He experienced much pain when the legs or arms were moved. His brothers and sisters are healthy. His father, who suffered from a similar affection had severe convulsions before his death. This lad was so unwell that he could attend only with great difficulty; he was irritable at night and complained of a loud, beating noise in his head and ears. For over a year he was treated with Valangin's solution of arsenic, and finally with cod liver oil, liquor ammoniæ, iodidi, followed by spirits ether, nitros and acetate of potash mixture. The head was rubbed with sweet oil, and the hairs that grew out of the scales were less brittle and began to look natural. The scales commenced falling off in pieces the size of a dollar, and for about three weeks he shed a pint of scales a day. His skin, which had a delicate pink tinge, had soon cleared itself of scales. The boy wept less, and persons serving in the stores no longer refused to take money from him for fear of contagion; but disobeying directions, he ventured out of doors when a cold wind was blowing and was seized with convulsions, from which, however, he recovered. The last I heard of him was that he was apprenticed to a cabinet maker, was merry and healthy and his skin remained free of scales.

The above cases go to show that these chronic cases of skin disease appear by degrees or suddenly, in early life or mature age, sometimes relatives may have had a similar disease, other times no predisposing cause is known; rheumatism, gout, fright, vaccination, cessation of menses have preceded its appearance; cases of long duration require longer treatment, are apter to recur than cases recently affected and brought early under medical treatment.

The genesis of psoriasis, therefore is quite unknown. The microscopist can only examine tissue already diseased, and then it often happens that the morbid changes observed are those noticed in other chronic, scaly, cutaneous disorders. The sympathetic nerve, probably is, mainly at fault. Limited psoriasis of the vaso-motor nerve allows of the continued dilatation of the capillary vessels of certain points in the skin, and the blood discs crowding into these vessels obstruct and disturb the normal circulation. By the transmission of blood discs and serum through the capillary walls, as through some tenaceous film, into the papillæ, their size is increased and abnormal nutrition of the cells of the rete malpighii is the result of this accession of blood. This excessive cell proliferation was observed by Newmann in the microscopic examination of psoriatic patches of skin. The papillæ were not only enlarged but their apices were covered with cells mostly of fusiform or stellate form, which were also abundant along the enlarged blood vessels of the skin. The corium is thus filled with an abundant cell growth. This abnormal condition excites irritation of the hypersensitive vaso-motor nerves, and this by giving rise to nervous reflex action, may either aggravate the disease already established, or be reflected through the central nervous system to corresponding parts of the opposite sides of the body, thus imparting to the disease its peculiar bilateral and symmetrical appearance. The disturbance to the exact adjustment of oxidation and nutrition to waste of tissue thus inaugurated, controls the extent of the psoriasis upon the body, confining it either to the size of a pin's head or covering a surface eight inches in diameter.

Psoriasis thus primarily depending upon some condition of the trophic and vasomotor nerves, even when seemingly cured, may recur when subjected to an exciting cause of less potentcy than at first. It may attack new tissue, the nerves supplying former sites of disease having lost by exhaustion of nerve action, their hypersensitive condition or the intra-epidermic nerves have become incapable of performing any function while lying broken in the epidermis.

The nerve cells are therefore unable to receive or form and transmit any impression through the nerve fibres to the nerve center and to peripheral blood vessels. The individual cells, however, that line the interspaces of the papillæ and add thickness to the rete malpighii and lie piled up above the skin are still vital with some innate action of their own. Their mere presence converts hyperæmia into active local action of an inflammatory type. The nature of the functions of the stellate cells in the rete, we are unable to determine.

DEATH FROM RUPTURE OF AN ANEURISM OF THE AORTA.

A paper read before the Philadelphia County Medical Society, December 19, 1883.

By W. T. Taylor, M.D.

F. D. B., a letter-carrier, aet. thirty-six years, came to see me on October 15, 1883, for a hoarseness, his voice at times being reduced to a whisper; a troublesome tickling cough, with an expectoration of frothy mucus, and pains through the left breast, extending sometimes down the left arm. He was slightly oppressed in his breathing after exertion, and generally debilitated.

He had not slept for several nights, and an apothecary had given him a chloral mixture, which did not relieve him, but "produced strange feelings and uncomfortable dreams," so that he would take no more of it.

On examining his throat I found a bifurcated uvula, with the right branch much elongated; this was clipped off, relieving somewhat his tickling cough. There was a slight dullness under the left clavicle, with some mucous rales, although the respiration generally was vesicular. The heart-sounds seemed distinct, but feeble, and the circulation was regular. His temperature was normal.

The mist. glyc. comp., with ammon. murias. was given to him for his cough and hoarseness. Tinct. iodine was applied externally to his throat and under the left clavicle, and the painful parts were bathed with linim. chloroform.

He was ordered to drink milk freely, to take beef tea and easily digested food.

For his insomnia I gave him a tablespoonful at bedtime of the following:

℞. Ammon. bromid. ℥i.
Elix. ammon. val.
Liq. morph. sulph. aa. ℥i. M.

This, however, only caused temporary rest, and had to be repeated frequently.

On October 26th, as the hoarseness and cough still remained, I gave him some cod-liver oil and lactophosphate of lime as a restorative, although I did not consider him tuberculous, for there was no hereditary tendency to phthisis in his family, and he was well developed physically.

I advised him to go out on pleasant days, but not to tire himself with long walks, fully expecting that in a few weeks he would be able to resume his occupation.

The pains which affected his breast and left arm began to extend to the back, between the shoulder and up to the occiput, and became so violent that they could be only partially relieved by bathing with laudanum and chloroform liniment, and the internal use of anodynes.

On November 1st, accompanied by his wife, he went to a bathing establishment to take a Russian bath, which some person had advised as being a positive cure for rheumatism. Arriving at the place he disrobed himself, preparatory to being bathed, when, on giving a slight cough, he raised some blood, which the attendant perceiving he was advised to dress again. This he did partially, but in a few minutes such large quantities of blood issued from his mouth that Dr. Benjamin Lee, who was in the building, was summoned to his relief. The hemorrhage, however, was so excessive that he died in a few minutes.

An autopsy was made the next day by Drs. R. B. Cruice and Alexander, which revealed a rupture of an aneurism of the aorta at the intersection with the left carotid artery, which had opened into the trachea. The heart was of normal size, but its muscular fibres were very firm and large; the pericardium was distended with serum. There was some congestion in the upper part of the left lung and some adhesions about the aneurism, but no tubercle was seen. The liver and other organs were healthy.

The pressure of this aneurism upon the

trachea was the cause of his hoarseness and cough; but being behind the lung I did not hear the aneurismal thrill, and, therefore, was entirely ignorant of the disease until it was revealed by the autopsy.

Correspondence.

AN OBSCURE CASE.

Editors Lancet and Clinic:

The following is the report of a case, which in many respects is peculiar, on account of the slight symptoms present and of its sudden and fatal termination, a sensational account of which appeared at the time in one of the morning papers.

On December 25th, was called to see a patient, K. R., female, white, age 19, single, has been a domestic at the Palace Hotel; left there a few days ago and since has been living with her sister; has been complaining of not feeling well for a week, slight sore throat, general malaise, appetite poor, bowels constipated; has taken pills and had one stool; respirations slightly accelerated, skin hot and dry, tongue coated, urine normal, mind clear, answers all questions, pupils normal and respond to light, throat slightly hyperæmic, no patches, temperature 102.5°, pulse 90; no pain on deep inspiration; auscultation and percussion of chest reveal nothing abnormal; no rales present; no tenderness over abdomen; menses regular; nothing in the pulse that would direct my attention to the heart; patient lying on the bed partially dressed.

Her sister said she had a fever the previous night and was slightly delirious. She supposed that she had a cold and had been using Dr. Bull's cough syrup.

I saw the case for the first time at noon and did not regard it as anything serious. Ordered:

℞. Tr. capsicum comp., ℥ss.
Syr. glycyrrh., ℥iss.
M. Sig. Teaspoonful every two hours in water.

℞. Pulv. Doverii, ʒss.
Hydrarg. chlor mite, grs. xxiv.
Camphoræ, grs. iii.
Sacch., ʒ ss.
M. Div. chart No. xii.
One every two hours, alternating.

About half-past seven, the same evening, I was called hurriedly by telephone to see the patient. I found a marked change. The patient was lying on her back, face cyanosed, intense dyspnœa, rales over both lungs, audible in any part of the room; respirations 45, hurried and shallow; pulse rapid and thready; face bathed in cold perspiration; pupils normal, respond to light; conscious and speaks with difficulty. Her sister said that the change had come on suddenly, while she was absent from the room a few minutes, and that previously she had been feeling better. I immediately ordered brandy and water, feet put into hot mustard water, a mustard plaster to the chest, and pillowed the patient up in bed.

I pronounced the case critical and called Dr. John L. Davis in consultation. The patient never rallied and died at 9:10 p.m., the heart's action being regular and strong to the last.

Remarks. — Father living, no heart trouble, mother died during confinement, never has had rheumatism and always enjoyed good health until time of death. The Coroner was notified, but, unfortunately, a post-mortem could not be obtained.
DR. O. D. NORTON, JR.

Cincinnati, Jaunary 8, 1884.

A MODEL CERTIFICATE.

Editors Lancet and Clinic:

Several years ago, while spending an hour or so in the Pension Office, at Washington, I was shown a medical certificate which had been forwarded to the Department and filed with other evidence in support of an application for pension. It was, I thought, too good a thing to be lost or buried, and I took a literal copy of it, which copy I send enclosed.

Very truly yours,
Jan. 2, 1884. P. S. CONNER.

"The braud muscle which compresses, lowers and extends the linea alba, the muscle of expiration is entirely severed thereby affecting the Scorbutus Cordi, which goes straight up to the navel or umbilicus, and from thence down to the pubis which is evidently the primordial cause of the frequent abscesses of the scrotum. Also from the fact of increased attachment necessarily causes increased cicatrix which is constantly increasing, and hence the increase of all the detrimental symptoms."

DR. JULER will have a paper in our next issue on "The Treatment of Psoriasis."

Society Reports.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Thursday Evening, Dec. 27, 1883.

The President, Dr. Tyson, in the Chair.

Fracture of the Base of the Skull. Exhibited by Dr. Guy Hinsdale.

J. H. W., aet. fifty, fell on the ice Dec. 8, 1882, striking upon the stone pavement. The blow was received on the posterior and left side of the skull, and the skin was not broken. He was shortly afterward admitted to the Episcopal Hospital and was totally unconscious. Blood was found flowing from his mouth and left ear, and his nose contained clots. His pupils afforded no evidence of his condition, because of an iridectomy which had been performed on both eyes some years previous. He talked incoherently; breathing was labored, and at times stertorous. Paralysis of the left leg was noted.

Blood continued to issue from the left ear, and on the second day the discharge became thin, and continued serous until his death, which occurred on the eleventh day. The urine was examined several times and found to contain sugar in moderate amount, but no albumen. Urine was passed freely. The patient never regained consciousness; he became more stupid, and paralysis of the left leg remained.

At the autopsy a superficial clot was found over the brain beneath the seat of injury. A very large clot was found over the right frontal region beneath the membrane, and filling the sulci between the convolutions. This was the result of the counter stroke, the force having been first received at a point diametrically opposite, and fully accounts for the left-sided paralysis. The fracture was slightly over five inches in length. It extended from a point in the left occipito-parietal suture one and a half inches behind the temporal bone, and traversed the suture, passing through the petrous portion of the temporal, the auditory canal, close to the inner side of the foramen ovale toward the foramen rotundum, where it terminated.

Necrosis of the Temporal Bone and Brain Abscess. Exhibited by Dr. Guy Hinsdale.

This specimen was removed from the body of Margaret P., aet. forty-six, who died in the Episcopal Hospital September 21, 1883, after long-standing aural disease. In early childhood she had scarlet fever; this was followed by aural catarrh, and the discharge from the ear continued until her death. She stated that when twenty-two years of age a polypus could be seen on her ear. Fifteen years ago this was removed; again masses were removed thirteen years, two years, and one year ago.

In May, 1883, four months before her death, the patient consulted Dr. Burnett, who has very kindly furnished me with notes of that date. The patient presented, at that time, a most wretched appearance. Extreme weakness, pallor, and emaciation betrayed the intense suffering of this unfortunate woman. Paralysis of the right side of the face had occurred during the previous winter without the supervention of additional ear symptoms. At the time of examination she presented great sensitiveness of the auriculo-temporal nerve, and complained of intense pain over the right temporal bone. To control this pain she was accustomed to use morphia suppositories. An examination of the ear revealed a mass of granulations, filling the entire lumen of the auditory canal, half an inch from the entrance. Late in May a large polypoid mass was extracted; bare bone was then discovered on the posterior portion of the canal, the channel narrowed, and blocked with granulations. About two fluid ounces of blood escaped after removing this mass.

When I saw the woman at the hospital in September, she was in a very low state and evidently near her end. Her mind was seriously affected, conversation was impossible, and she groaned with the pain, which large doses of morphia would not altogether control. There was a moderate but constant purulent discharge from the ear, and from a sinus which was found above the meatus. The whole temporal region was boggy. The probe passed in freely over an inch, and loose particles of dead bone could be everywhere felt. The disease had long been beyond the reach of any remedy, and there was nothing to be done but relieve pain and await her death.

The specimen removed embraces portions of the right temporal, parietal, and occipital bones. Almost all the temporal bone has been destroyed; only the mastoid process and the upper border of the squamous portion remain. An area of bone 1½x 2 inches has entirely disappeared, Adjacent to this region, and lying next the middle fossa at the skull, was a brain abscess, the walls of which were greatly thickened. On opening this cavity about an ounce of thick, yellowish pus was found. A probe easily reached this cavity through the auditory canal and the sinus above it, and many loose fragments of bone were found at the outlet. The styloid process was found loose, but held in position by the various ligaments that arose from it. The inflammatory process, in which the meninges had of course shared, was not acute, the brain substance beyond the abscess walls had no unusual appearances, and the left cerebral lobe, with its membranes, was normal.

Dr. C. H. Burnett thanked the Society and Dr. Hinsdale for the opportunity of seeing this very interesting specimen, and of making a few remarks upon the case. The great destruction of bone tissue is remarkable, and unusual in extent, being three inches in length and one and a half to two inches in breadth. The necrosis seemed to have originated in the tympanic region rather than in the mastoid, and hence belongs to the class of cases second in frequency—the most frequent being those fatal cases where the bone disease originates in, and extends from, the mastoid cavity. The case, when seen by Dr. Burnett, in the spring of 1883, presented very grave symptoms, and the patient was extremely weak; so much so that Dr. Burnett was surprised that she lived until September. The occurrence of extensive granulations in the external auditory canal constituted a very unfavorable feature, as they acted like a dam, preventing the escape of the products of inflammation, and held them back in the tympanic cavity and mastoid cells, forcing them to break and escape through more important and vital tissues.

The case furnishes another example of the evil of neglect of purulent disease of the ear. Dr. Burnett inquired whether there were symptoms of destruction or implication of any of the nerves passing through the cavernous sinus, as would be shown by alteration in parts supplied by the vaso-motor, the pathetic, and ophthalmic nerves. Dr. Hinsdale replied that no eye symptoms had ever been detected.

Case of Phthisis with Empyema. Presented by Dr. H. M. Fisher.

The patient, J. C., æt. twenty-one, was admitted to the Episcopal Hospital March 17, 1883. The following notes of the case were taken by Dr. George M. Boyd, the resident physician:

Patient states that he has had a slight cough for one year, but was not much annoyed with it until about a month ago, when he was seized with severe pain in the left chest, accompanied by chilly sensations and difficulty of breathing. Upon admission, he presents all the symptoms of left pleural effusion, absent vocal fremitus, tubular breathing, and bronchophony in the neighborhood of the spinal column on the left side. His chest was tapped on the morning of March 21st, and three pints of a semi-purulent fluid were evacuated. The operation was followed by great improvement in the patient's symptoms. Three weeks later he left the hospital, contrary to advice. He was readmitted April 20th, and stated that soon after leaving the hospital the pain in the side returned, followed by dyspnœa. April 23d, paracentesis thoracis was performed by Dr. Henry, and fifty-six ounces of purulent fluid were drawn off, and the operation again afforded great relief. A violent fit of coughing followed the withdrawal of the canula. The heart's apex beat was found, before the operation, to be immmediately below the right nipple; after the operation it was found to have shifted one inch to the left of its previous position.

May 5th, Dr. Forbes operated at Dr. Henry's request, making two openings into the left pleural cavity, one at fifth interspace, the other at the fourth and to the right of the first. Ten ounces of purulent fluid were withdrawn by means of the aspirator, and a soft rubber catheter was passed in at one of the openings and out at the other. The pleural sac was then ordered to be washed out daily with a solution of corrosive sublimate, gr. i.—℥ i.

During the summer the patient's general condition seemed for a time to improve; his appetite, however, continued obstinately bad, and he had constipation alternating with diarrhœa. In October it was noted that he was losing flesh and strength rapidly and that there was much œdema of the feet and legs. During this month diarrhœa became a constant symptom and death occurred November 22d.

Post-mortem examination ten hours after death. The body is extremely emaciated, The left lung is contracted to about one-fourth of its normal size and contains in its upper lobe some cheesy masses with areas of catarrhal pneumonic infiltration. The left pleural cavity contains about five ounces of ichorous pus. The parietal layer of the left pleura is so tightly adherent to the chest wall that it is impossibe to detach it without dissection. The pulmonary layer is also tightly adherent to the contracted left lung, the lobes of which are firmly matted together by adhesions. The right lung also presents numerous cheesy foci with large areas of catarrhal pneumonic infiltration. The heart is rather small and its tissue is pale, but its valves appear normal. The liver weighs 6 lbs., 6½ oz., its tissue is pale and it has a markedly waxy appearance. The spleen is much enlarged, its tissue *firm and of a dusky red hue.* Numerous *yellowish white nodules* are also seen on it, the largest of which is perhaps of the size of a small pin's head. The kidneys are rather large, their capsule is non-adherent and their tissue rather paler than normal. Numerous *minute whitish nodules* are also found to be scattered through the tissue of both kidneys. These appear rather more numerous and larger in the cortical portions, but are also found in the medullary portion. From some of the larger nodules a whitish puriform substance can be squeezed out with the blade of the knife. With the naked eye the exact nature of the above mentioned infiltrations of the spleen and kidneys is difficult to determine. Nothing abnormal was noticed in the intestinal tract, except in the ilium, where an area of intense congestion was noticed about one yard from the ileo-cæcal valve, but no ulceration was anywhere detected.

My view of the sequence of pathological events in this case is the following: *First,* catarrhal pneumonia with the production of cheesy foci; *secondly,* scrofulous inflammations of the pleura with attendant exudation, which from the start was probably more or less purulent; *thirdly,* the infiltration of the *liver, spleen,* and possibly also the *kidneys* with amyloid matter.

The exact nature of the yellowish white nodules in the spleen and kidneys being yet undetermined, I can not yet assign to them a positive place in the chain of scrofulous processes, but from the absence of any macroscopic evidence of embolic infarctions, or of any appearance of infarction in the one microscopic section of the kidney I had the opportunity of examining (kindly made for me by Dr. Henry), I should conclude that these were also cheesy foci, and their production may perhaps have nearly coincided in point of time with the production of the cheesy foci in the lungs above alluded to.

Dr. Shakespeare said the specimen was a good instance of miliary tuberculosis. The small collection in the spleen might be tuberculous, he thought, and should have been examined for tubercle bacilli. He adverted to the successful employment of very weak solutions of corrosive sublimate in washing out suppurating serous cavities.

Atheroma, Dilatation and Aneurism of the Aorta and Atheroma of some of its Branches; Death from Rupture of the Aneurism into the Left Pleural Cavity; Congenital Deformity of the Stomach, Malposition of the Transverse Colon and Right Kidney; Irregular Shape of the Kidney; Anomalous Origin of the Renal Arteries and of the Ureters. By J. H. Musser, M.D.

This remarkable series of specimens illustrate how a serious disease can be in progress within the body without any manifestations. The patient had been under the care of Dr. Ludlow, in the Presbyterian Hospital, complaining of and being treated for nasal catarrh. He complained also of a slight bronchitis, but not being very decided, the nasal trouble alone was treated. A white man, æt. 63, well nourished, of temperate habits, and by occupation a wheelwright. He was under observation ten weeks. No previous illness. He slept well the night before his death until 5 a.m. He then told the night nurse he was very cold. Being covered, he went to sleep apparently; an hour afterwards he was found dead. The writer made the autopsy about twelve hours after death.

Inspection: Rigor mortis well marked; body well nourished; no scars or bruises; no ecchymoses; abdomen moderately distended; in the right lower quarter a decided swelling was noticed almost filling that area and resonant on percussion.

Section: Abdominal cavity first examined. The above described swelling was due to the cæcum and transverse colon. The ascending colon extended about half way the usual distance and then turned at a sharp acute angle into the transverse colon. The latter descended parallel to the former into the right iliac fossæ and from thence diagonally upwards across the abdomen to the usual place of junction with the descending colon. The omentum contained a considerable amount of fat. The right lobe of the liver could not be seen until removal of the ribs, when it was found two inches above their margin and to be only two and one-half inches in length in the nipple line. In the median line this same perpendicular length was three and one-half inches. More of the left lobe was visible than the right. Along the edge of the left lobe, from the median line, four and one-half inches in length, extended the stomach. It appeared to be small in size. When removed it was found to be divided by a constriction five inches from the fundus; from this constriction to the pylorus the length was four and one-half inches. The first or cardiac end was much smaller than normal, the walls and mucous membrane healthy. The second portion was a mere tube with thick walls. The thickening was due to the hypertrophy of the longitudinal muscular layers and to the folds that the mucous membrane was thrown into. These folds were very marked, longitudinal, and on their crests, congested. The peritoneum was opaque and thickened. The liver was smaller than usual also. The capsule was thickened and opaque along the edges of the right lobe; on the outer surface there were cicatrices and a firm adhesion at one point to the diaphragm. On section the tissues were firm on pressure and congested. Commencing cirrhosis noted on microscopical examination. The gall-bladder projected one inch below the liver margin in the nipple line.

The left kidney was found in its normal position. It was much enlarged, five inches long, two inches thick. The pelvis was filled with fat, the substance pale, hard on pressure, with a contracted cortical portion. The capsule tore off easily.

The right kidney was found in the pelvis at the right sacro-iliac articulation. It was small in size, irregular in shape, parallel to the sacrum.

The portion dipping downwards, tapered to a point being one-half inch in width; the upper portion was two inches wide. The pelvis of the kidney was filled with fat. Towards the small end of the kidney the hilus divided, one part extending upwards one inch along one side of the organ, the other the same length on the other side; or it might be said a portion of the kidney dipped into the pelvis, separating it for an inch. The renal artery arose from the normal origin of the middle sacral. One inch from the point of origin it divided; one branch, 2½ inches long, entered one lateral hilus, if it may be so termed, the other divided 2½ inches from the main trunk, one subdivision entering the remaining lateral hilus, the other running across the floor of the pelvis to the normal end of the kidney. The ureter arose by three branches—two from the upper end, one from one of the smaller pelves.

Thoracic Cavity: Left pleural cavity almost filled with blood, the lung floating on the fluid. The lateral surface was adherent to the aneurism. In its removal the collapsed sac was seen on the left side of the vertebral column. The heart and aorta were removed entire.

Heart: Enlarged, left side especially, weight, 41½ oz; measurement of left ventricle near base, 1⅛ in. thick, in the middle, ⅞ in. thick, at apex ½ inch thick; mitral valves a little thickened; aorta healthy, atheromatous processes were present in the aorta from its beginning to the cœliac axis and extended into the latter vessel and also the inominate and carotid arteries. These processes included the sclerotic changes shown by innumerable small smooth, firm elevations of the surfaces, the degenerative changes, fatty and calcarious, and also the atheromatous. One calcarious plate was found in the cœliac axis. From its origin to the middle of the transverse aorta, the vessel was dilated and the characteristic fatty changes of the proliferated cells of the intima lemon-yellow colored, smooth, soft elevations were marked. Opposite the trachea the calibre of the aorta diminished to almost normal size, and here the slerotic changes were most marked, as well as around the mouths of the vessels. At the junction of the transverse and descending aorta, the lumen was again closed; here the aneurism originated. It was of the true variety but from it sprang false aneurisms, varying in size from a filbert to a small egg. Organized clots covered the surface of portions of the wall and on dissection it was found these clots were either in the false aneurisms or clinging to the atheromatous ulcers. Rupture of the sac took place behind on the pleural adhesions and leaked into the cavity, finding its way through the adhesions. The vertebræ were not eroded and although the sac was in contact with the left branches, there was no evidence of decided pressure upon it, while the relation to nerves, other vessels, and the æsophagus were such that the usual pressure symptoms could not arise. It is thus seen that by physical examination alone could this aneurism have been detected. There were absolutely no subjective symptoms and the autopsy reveals the reasons of this.

Hourglass Contraction of Stomach; Congenital. Presented by J. H. MUSSER, M. D.

The patient, an adult, from whom I removed this stomach died of organic heart disease. Constant vomiting occurred a few months before death, but as a sequence of the general condition of the patient, and not on account of the gastric change. I call the appearance congenital, because of the absence in the clinical history of any occurrence throughout life to have caused it, and of the want of evidence on post mortem inspection. The contraction took place in the center and was transverse; the peritoneum and sub-mucous connective tissue was the same at this point, anterior to the constriction the muscular coating was hypertrophic. The mucous membrane was thrown into folds in the constriction.

Lung from a case of Pleuro-Pneumonia Complicated with Delirium Tremens, by J. H. MUSSER, M. D.

I present this specimen, to-night, on account of its perfection. It is the lower lobe of the right lung in the stage of red hepatization as indicated by the appearance, weight, etc., almost the entire pleural surface, including the diaphragmatic, is covered with recent lymph, the layer averaging one-half inch in thickness. The tongue of the lung dipping into the space between the diaphragm and the thoracic wall is not solidified entirely. Here the lymph is abundant, and the contiguous portion of the lung is hepatized, as if the inflammatory process extended from the pleura; this peripheral hepatized portion is but one-fourth inch wide, the inner-succeeding portion is not solidified.

The patient died 18 hours after admission to the hospital, from heart-clot. When admitted there were evidences of its formation, and in addition he had delirium tremens. The pneumonia was distinctly recognized; there were no signs of simple or diaphragmatic pleurisy. It was remarked at the autopsy on removing the sternum, the extreme distensiou of the right heart, especially the auricle. On opening the heart, hypertrophied from other causes, the right side was found filled with blood and an enormous ante-mortem clot entwined around the leaflets of the tricuspid valve, and extending through the auricle into the pulmonary vessels. A similar clot was found in the left heart. The kidneys were congested and commencing cirrhosis appeared manifest.

The history ot the case antecedent to the admission to the hospital is as follows: The patient had been on a "spree" for two weeks and five days, before admission had had a severe chill followed by the symptoms of pneumonia. Two days after the chill the mania developed, and on the day of admission he had been found wandering about the street by a crony, who brought him to the hospital. He was 41 years old, a boss machinist, single, of intemperate habits.

Carcinoma of the Uterus, Fatty Kidneys and Empyema, by W. A. EDWARDS, M. D.

The specimens which I show you to-night were taken from the body of A. E., this morning, I have not, as yet, had the opportunity of examining them microscopically. The patient was visited but once before her death, by Dr. J. S. Watt, for whom I made the post-mortem examination. The history of the patient is of course imperfect, in fact, little if any could be obtained; the symptoms of which she complained the most was an ill-smelling, irritating discharge from the vulva, so our attention was first directed to the womb which presents a scirrhus carcinoma of the external and internal os, and of the cervical canal. The mucous membrane of the organ is softened and very rougous, looking not unlike a mammilated stomach. A microscopic section will probably show cellular infiltration. The uterus is enlarged. Our subject was a multiparæ, aged 45, nine children and two miscarriages. A cyst was seen in the right parovarium, its contents was pure serum. The ovaries presented areas of calcareous degeneration, other pelvic viscera normal. The kidneys are small and appear to have undergone some amyloid change, the right one was a rib higher than its normal position.

Heart muscle has undergone some fatty degeneration as has also the aorta, valves almost normal, ante-mortem clots in each ventricle, that in right is of unusual size. Pericardium contained the usual straw-colored effusion.

Lungs: Left normal; right, the pulmonary and costal pleura, were in many places adherent by thick, well organized lymph, which beautifully illustrates the rationale of friction rales, their sudden appearance, duration and equally sudden disapperance. About a pint of purulent effusion was collected in the base of right chest. The diaphragmatic pleura was tightly adherent to the pulmonary, requiring some tearing in order to separate. The lobes of this lung are bound down by recent lymph. Scattered throughout the mesentery were to be seen areas of calcareous degeneration, about the size of almonds.

HYSTERICAL PSEUDO-PHTHISIS. — In young women suffering from chlorosis and hysteria there is often, according to Dr. Fabre (*Centralb. f. Gynäk.*) a condition simulating phthisis. There is a cough, with expectoration, and even spitting of blood. Physical examination reveals dulness at the apex (usually on the right side), feeble respiration and occasional rales. The author regards these symptoms as due to a vaso-motor disturbance exciting a pulmonary congestion. Other organs may also be subject to functional disturbances. Obstinate anorexia, gastric pain, occasionally diarrhœa, but more frequently constipation, are not seldom present. The pulse is weak and frequent, like that of fever, although the temperature may be normal. Sometimes, however, there is elevated temperature which may be normal. Sometimes, however, there is elevated temperature, but it is only transitory, and regular evening exacerbations are never observed. The expectoration is not purulent, but may be mixed with blood. While in true phthisis there is emaciation, in these cases the patients often increase in weight. Sweating, as a rule, is not met with. The differetial diagnosis is often difficult, and the author relates that cases have not infrequently occurred in which a diagnosis of pulmonary consumption was made, but the patient nevertheless recovered. The condition may exist without material improvement for months, or even years.—*The Practitioner.*

THE CINCINNATI

LANCET AND CLINIC

A Weekly Journal of

MEDICINE AND SURGERY,

ISSUED EVERY SATURDAY.

TERMS, $3.50 PER ANNUM IN ADVANCE.

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DR. J. C. CULBERTSON,
EDITOR AND PUBLISHER,
281 W. 7th STREET, CINCINNATI, OHIO.

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Cincinnati, January 12, 1884.

Translations.

KOCH'S CHOLERA INVESTIGATIONS.

SECOND REPORT.

[Translated by Dr. Eric E. Sattler.]

SUEZ, Nov. 10, 1883.

Since my last report (dated Alexandria, Sept. 17th,) I am able to report the following progress in the work undertaken by the Commission:

Notwithstanding the fact of the occurrence of only isolated cases of cholera, it happened by chance that we were able to make another post-mortem examination of a cholera case occurring in the European Hospital and were able in this case too, to corroborate all our former results, finding the same kind of bacilli in the intestines as in our former cases.

With materials from this body, as well as with other materials and fluids derived from cholera patients and dead bodies, the experiments of infecting animals were continued with every conceivable modification. Especially did we try by mixing the infecting materials with dirt or water, by allowing them to dry on cloths, and afterwards feeding monkeys, dogs, mice and chickens with them to produce infection, but all these trials were as unsuccessful as all former ones.

After we had completed our work and

investigations as far as possible in Alexandria, and there seemed to be no further possibility of obtaining post-mortem examinations on patients dead with Cholera, the Commission betook itself, October 16th, to Cairo. Our instruments, apparatus, and pathological specimens were shipped in advance by freight to Suez, to be taken from there to India.

While the Commission were stationed at Cairo, word come to us that an increase of the epidemic was again taking place in Alexandria. We, however, did not think a return to Alexandria either practicable or profitable, since it might be foreseen that this new outbreak would be very slight and only of temporary duration. Besides, Drs. Shiess Bey and Kartulis, of Alexandria, had most willingly and kindly promised to gather and preserve any forthcoming pathological specimens from four post-mortem examinations, necessary for our investigations.

Bombay seemed to me at first to be the most suitable place for continuing our investigations, because numerous deaths from cholera had taken place there in August and the early part of September. Since that time, however, the epidemic has rapidly decreased in severity, and has apparently completely died out now. According to the opinion of many of the English officials, well acquainted with Indian affairs, Calcutta was pointed out to me as the most appropriate place, since cholera prevailed there more or less all the time.

Before leaving Egypt, however, I considered it most important to study and gain insight into some questions concerning the source and especially the prevention of cholera. In the first place it was examined into, whether the assertions upheld strongly by many, that the recent Cholera Epidemic was not imported from India, but originated in Egypt itself was correct or not, and that therefore in the future, Egypt and India would take the same rank in the production of this dreaded scourge. In order to gain information on this point and form an opinion the Commission went, October 6th, from Alexandria to Damietta where the cholera had made its appearance first, and for several days we made most searching and careful investigations there concerning the origin of this pest.

A detailed account of our results I rerve for a later report.

Still more important questions were those concerning the efficacy of quarantine and the propagation of cholera by pilgrims going to and from Mecca. With this question, too, the Commission busied itself during its sojourn at Alexandria, and examined carefully the arrangements of the quarantine stations at Galvari and Meks, as also that at Damietta on the eastern arm of the mouth of the Nile. When, however, during the last weeks, the outbreak of cholera among the pilgrims in Mecca was announced and it was ordered that the pilgrims coming from Djeddah were to be quarantined at Tor, such a favorable opportunity was offered us to gain information on these important points, that I thought myself in duty bound to take advantage of it. But as no regular connection exists with the Egyptian quarantine stations in the Red Sea, nothing remained to us but to appeal to the Egyptian Government for aid in order to enable the Commission to get there. The Khedive immediately kindly offered us places on the "Damanhur," which was on its way to Tor with provisions, etc., for the quarantine station.

This trip proved very profitable and instructing to the Commission. The opportunity presented itself, namely, on our visit to Tor to visit and examine the quarantine station that had been fitted out, but not yet occupied, for the reception of the pilgrims. The same day a steamer of the Austrian Lloyd with 500 pilgrims on board entered the harbor of Tor. According to the statements of the ship physician every person on board was healthy. But already on disembarcation several pilgrims showed signs of cholera, so that it became necessary to remove them to the quarantine hospital. On our next visit at Tor the Commission found that another ship load of pilgrims had arrived and been put to shore, and cholera had already broken out among them too. The pilgrims of the first ship lost three, the second one of their number by death, and had a proportionate number sick with cholera. It was the aim of the Commission in examining the quarantine stations of El Wedj, etc., to gain as deep insight as possible in the circumstances and relations governing the propagation and dissemination of cholera into Europe, and it hopes soon to be able to furnish reliable observations on these points derived from their own investigations, as well as from inquiries made at the quarantine stations and points received from the pilgrims themselves.

In addition to these investigations the Commission has also continued its inquiries concerning questions standing in direct connection with cholera, as for instance, what influence the water supply, the filtration of water, the rise and fall of the Nile, etc., have on the course of the epidemic.

In Alexandria, also, numerous examinations were made and important facts elicited concerning dysentery, the frequency of tuberculosis in Egypt, and furthermore concerning parasites that flourish in the blood of the portal vein and constitute a very frequent occurrence in making post-mortem examinations in Egypt. Opportunities were also presented of observing other important diseases produced by parasites. Fifty (50) cases of patients suffering with "Egyptian sore eyes" were also examined and it was found that two entirely different pathological processes were included under this name. One, which runs a much more severe course, is caused by a species of bacteria, which is similar to the micrococcus of gonorrhœa, in all probability identical with it. The other is characterized by the constant presence of very minute bacilli in the pus corpuscles. This latter disease runs a much milder course.

Selections.

MEDICINE.

The Nutritive Value of the Food-Stuffs. — The researches of Pettenkofer and Voit on the nutritive value of albuminates, fats, and carbo-hydrates, and the part that each plays in the economy of digestion, metabolism, and nutrition, will long take their place among the most brilliant examples of the triumph of the true scientific method, *i. e.*, of experiments ingeniously conceived and carefully carried out, so as to exclude or to neutralize each possible source of error, over the crude experiment, whether presenting itself casually or undertaken without previous adequate precautions, and the other alternative of deductive speculation, as seen in the observations or experiments of Beaumont, Bidder, Schmidt, etc., on the one hand, and the attractive but dubious conclusions of Liebig and Frankland on the other; none of which are to be considered free from sources of error.

But, if one were to judge from the way in which not merely popular but more serious books on physiology and hygiene—nay even university examination papers—occasionally refer to flesh-forming foods, to respiratory foods as sources of heat, and to the relative quantity of energy contained in given weights of any aliment, one would think that they were still unknown in this country. Yet the practical value of their results is so great, and the consequences of acting on the hypothesis of the aforesaid speculators might be so serious, that it will not be a waste of time to review the present state of our knowledge on the subject of dietetics.

Liebig, whose fertile imagination led the way to discoveries of the highest importance, although the same discoveries often brought about the rejection of the hypothesis which first suggested the lines of investigation, proposed the earliest rational doctrine of nutrition. In his researches on the food of plants, which have revolutionized agriculture, created new industries, and increased the food-producing capabilities of the old world, he showed that we could learn from the composition of the vegetable ash what minerals entered into the constitution of the plant, and, by supplying them in the right proportions, enable almost any soil to carry any crop. From this he reasoned to the animal, with this difference, that the latter must have its food provided already in the complex organic forms of the albuminates, carbo-hydrates, and fats. Since nearly all tissues contained nitrogen, it was evident that they could be built up and restored only by nitrogenous materials; that is, that albuminates alone could be applied to tissue formation. So far he was right; but, when he began to speculate as to the actual processes of nutrition, he went wrong.

Recognizing in metabolism the only source of functional activity, he assumed that each organ, in the exercise of its functions, consumed a certain proportion of its substance, and that, consequently, albuminous nutriment must be provided in direct proportion to the activity put forth. Albuminates he distinguished as plastic or flesh-forming food; the fats and carbo-hydrates he considered to be no more than fuel for the production of heat, and he therefore called them respiratory food.

According to this theory, the elimination of urea should be proportioned to the amount of energy put forth, and also to the quantity of albumen in the food. But such is not the case. For a short time the difficulty was met by the theory of luxus consumption, which assumed that, when more albumen was ingested than was required for the repair of the tissues, the excess underwent combustion in the blood with evolution of heat, thus playing the part assigned to the carbo-hydrates and fats. The measure of the necessary albumen was inferred from the excretion of urea observed during abstinence from all nitrogenous food.

Moleschott raised the first protest against the speculations of the famous chemist; but it was Voit who demolished the whole theory, by showing that albuminous metabolism is not increased by exercise, and that the albumen metabolized by a fasting animal is insufficient, even when combined with the due proportion of carbo-hydrates and fats for the maintenance of life; while severe muscular exercise does not augment the excretion of urea, though it does that of carbonic acid enormously.

Voit's experiments clearly point to the conclusion that the greater part of the albumen taken in the food is accumulated *pro tempore* in the general fluids of the body, whence so much is withdrawn by the tissues as is required for their repair, and that this fluid albumen is far more easily metabolized than that which has already entered into the structures. In a previously well-fed dog the daily excretion of urea during the first days of fasting was no less than sixty grammes; but when the stock of free albumen was exhausted, it sank to ten or twelve; while in one that had not previously had more than was necessary for the maintenance of the *status quo*, the excretion never exceeded fourteen; since the hardly metabolized organized albumen had to be drawn on almost from the first. The increased excretion of urea, in certain pathological conditions, is owing probably to the loosening, as it were, of the bonds of the albumen in the tissues, which is thus brought into the easier metabolized condition of the dissolved albumen. In health, a certain excess of albuminous food above the actual needs of the tissues—in other words, an ample stock of albumen, dissolved in the juices of the body—appears necessary to great functional activity, and to afford the power of resisting injurious influences, as exposure to the elements or to disease; but if the ingestion of albumen be continued in greater excess, the surplus is immediately subjected to metabolism, the excretion of urea depending on the albumen ingested, and not on the amount of muscular activity, as Liebig supposed. Yet albuminous metabolism can never be entirely suspended, and is practically the same in animals fed entirely on non-nitrogenous food as in those actually starving. Albumen alone can, however, maintain life, though not health, for a considerable time, and can thus replace the fats and carbohydrates, whereas the converse is not the case.

The experiments of Pettenkofer and Voit, of Plosz and Györgyai, Maley, Latschenberger, and others tend to the conclusion that peptones can entirely fulfil the functions of albumen, while they are more easily metabolized than the unaltered albumen; whereas gelatin can replace it so far only as regards metabolism, being incapable of entering into the formation of the tissues. The clinical value of these facts is obvious.

The impulse to metabolism seems to proceed from the cells themselves, and to be more of a vital than of a chemical character; the oxygen combining rather with the products of the splitting up of the foodstuffs than directly and primarily with them, as Liebig taught. Thus, in the opinion of Fränke, an increased destruction of tissue is actually induced by a deficiency of oxygen in the system; at any rate this is certain, that there is little or no relation between the facility with which any given substance combines with oxygen, *i. e.*, burns in the air, and under the totally different conditions under which it finds itself in the animal body. Thus fats are clearly less easily metabolized than carbo-hydrates, and albuminates are far more so than their slow combustibility would lead one to anticipate. Albumen splits up into products, one of which is fat, and the others, immediately or remotely, carbonic acid and water. It is, therefore, the probable source of the fat stored up in the body; and the apparent fat-producing power of carbohydrates is owing to their easy metabolism effecting a saving of the albumen which would otherwise have been employed in the production of heat and force.

Experiment on the living animal shows this very clearly. For instance, a dog which, on a diet of 1,000 grammes of pure flesh and 500 of fat, gained weight for over a month, began to lose weight when the flesh was increased to 1,500 grammes, without a corresponding increase in the non-nitrogenous food. And again, Frankland's estimates of the energy contained in equal weights of each article of food, based on the heat given off in their combustion, are not confirmed by experiment or by common experience. These points can not be determined *a priori* by chemists, but must be decided by carefully conducted physiological experiments. It is, we repeat, by the influence exerted on the vital cell-processes that metabolism is increased or diminished, rather than by an act of substitution; thus, while alcohol, the most combustible out of the body of all foods, but by no means the most easily metabolized in it, in large doses depresses that action and lessens tissue-change, albumen, hard to burn, but most easy of matabolism, excites it almost in direct ratio to the quantity ingested, or rather to the proportion it bears to the other food-stuffs. We are far from maintaining that every conclusion of the Munich physiologists is beyond criticism, but they are clearly working in the right direction, and their results must lead to a great change in our views and practice, especially in the dietary of the sickroom, and in our ideas of the value and action of alcohol.—*British Med. Jour.*

PHYSOSTIGMA AND ESERINE IN THE TREATMENT OF THE NIGHT-SWEATING OF PHTHISIS. By William Murrell, M. D., F. R.C.P., in *The Practitioner.*

In a clinical lecture delivered at the Pennsylvania Hospital, Dr. Da Costa speaks well of physostigma as a remedy for this distressing affection. He says "In a man with advanced tubercular consumption attended with profuse night-sweats, two minims of fluid extract of physostigma were given; he was sweating at the time; his respirations were 30; the pulse, 120; the temperature 100°. In an hour afterwards the skin was almost dry; respirations were 24, the pulse was 104, the temperature 96°·6; it rose in two hours after this to 97°·8. There had been no unpleasant effect except great thirst. In another case we first noticed the sweating carefully, while a placebo only was given. It came on profusely at midnight, and while profuse the respirations were 32, the pulse was 122, the temperature 97°; the sweating lasted four hours; as it passed away, the respirations were 28, the pulse 114, the temperature 99°·8. At the same period of the next twenty-four hours, and when the sweating had fairly begun, although the temperature then was 99°·5, a dose of two minims of the fluid extract of Calabar bean checked the sweating in an hour and a half, the temperature rising to 100°·6. In a third case of marked phthisis with night-sweats, the temperature before the sweats at 3 p. m. was 100°·5; in an hour afterwards with a profuse sweat it had declined to 98°·6; four minims of the fluid extract were then given, the sweat was completely checked in an hour, the temperature rising to 99°; there was no decided effect on the pupil and no unpleasant symptom. In a fourth case the profuse early morning perspirations were arrested in two hours by the same dose, the pupils being slightly contracted, the pulse becoming less strong, the temperature declining from 100° to 97°·6."

On theoretical grounds it might be supposed that physostigma would be useful in the treatment of sweating. It is allied in its physiological action to jaborandi, pilocarpin, and muscarin, whilst it is antagonised by atropin, daturin, hyoscyamin, and homatropin.

I have used physostigima and the salts of its alkaloid in the treatment of the night-sweating of phthsis for nearly two years, and have notes of over fifty cases. Of these thirty-three were males and seventeen females. Of the adults thirty-eight were between the ages of twenty and thirty-nine. The oldest patient was forty-nine, the youngest was a girl of four. They were all out-patients at the Royal Hospital for Diseases of the Chest, and were all suffering from phthisis. Their spmptoms were those usually met with in these cases—cough, expectoration, more or less hæmoptysis, loss of flesh, and night-sweating. With regard to physical signs, all stages of the diseases were represented; in some there was simply consolidation, others had moist sounds over the chest, and in others again the indications of the existence of a cavity were apparent. The sweating was in every instance profuse, only well-marked cases to be selected for observation. It is hardly necessary to say that whilst the physostigma was being taken no other treatment was adopted. The only exception to this was in the case of cod-liver oil. If the oil had been taken continuously for some time, it was thought better to allow the patient to go on with it rather than to introduce a disturbing element by discontinuing its use.

Of the fifty cases thirty-four were treated with physostigma itself. The preparation was the extract, the dose one-tenth of a grain made into pilules with sugar of milk. In ten cases one pilule only was given at bedtime, and in eight of these the sweating was completely arrested by the fourth or fifth night. Of the two cases of failure one was relieved by two pilules of physostigma at bedtime, and the other by a twenty-grain dose of agaric. In twenty-four cases the physostigma pilules were given three times during the night, and this gave even better results. In most cases the sweating was checked the first or second night, and in every case it had almost ceased by the end of the week. In some cases where there was profuse sweating during the day as well as at night, a pilule was given every four hours. The dose is too small to produce "untoward effects," and no hesitation need be felt in repeating it frequently. The sweating once stopped does not as a rule return for three weeks or a month, but at the expiration of that time it is usually necessary to resume the treatment. In two cases in which the physostigma failed to act promptly, Shoemaker's oleate of zinc was used as a dusting powder at bedtime with excellent effect. This new oleate is a beautiful greyish-white soft powder, but as it has a slight though hardly perceptible odour, it should be prescribed with the addition of .002 part of thymol. The combination is a pleasant one and succeeds admirably, not only in excessive sweating, but as a remedy for many acute and irritable skin diseases.

I have used three salts of eserine—the hydrobromate, salicylate, and sulphate, and all three answer equally well. The dose best adapted for the treatment of excessive sweating is the sixtieth part of a grain, and this may be conveniently made into pilules, one to be taken three or four times during the night. In fifteen consecutive cases in which I gave them I had no failures, although it is hardly likely that this treatment will succeed in every case.

Physostigma is undoubtedly a good remedy for excessive sweating, but there is no reason to suppose that it will take the place of other and better known modes of treatment. It may be said that we have now so many remedies for sweating, that practically it is not desirable to extend the list. This may be true, but on purely pharmacological grounds the use of Calabar bean to check sweating is of interest.

In one case of phthisis I gave the patient at intervals six hypodermic injections of a sixtieth of a grain of sulphate of eserine. The temperature was taken every four hours for six weeks, but I could not see that it influenced it in any way.

SURGERY.

Treatment of Vascular Tumors without Operation.—Floriani (*Allgem. Wein. Med. Zeit.*) has recently treated six cases of telangiectasis with sublimate collodion (15 per cent. solution). The collodion is put on in four layers by means of a camel's hair brush, each layer being allowed to dry thoroughly before the next is applied. On the fourth day the edges are raised and a second series of four applications are made, this being repeated every fourth day until the swelling disappears and the edges are depressed. After the crust falls off the place seems depressed and reddened, but soon resumes its normal color. This treatment is painless and requires only one or two months to cause an angiomatous tumor to disappear.—*The Practitioner.*

A Means of Ascertaining the Course of the Small Bowel in the Operation of Abdominal Section.—It is confessedly difficult to distinguish the upper from the lower end of a knuckle of small intestine presenting at an abdominal wound; yet it is often desirable to know this, *e.g.*, when practicing abdominal section for the relief of internal intestinal obstruction, or in attempting duodenostomy, so called. Operators have ere this passed some feet of intestine through their hands, uncertain as to whether they were proceeding upwards or downwards in the direction of the tube.

The jejunum and ileum, loosely moored to the spine by the mesentery, are the districts of the bowel usually in question. The mesentery, at its free border, follows the windings of this portion of the gut, and is correspondingly complex; but, on approaching the spine, it rapidly narrows, until, at its attachment along the front of the column, its root is but about six inches in extent. This attachment of the root, extending, it will be remembered, from the left side of the body of the second lumbar vertebra to the right sacro-iliac synchondrosis, follows roughly the middle line of the body its two surfaces facing nearly right and left.

The relation of the bowel to the root of the mesentery furnishes a sure guide to the direction of the bowel; for, if the piece of bowel which presents at the abdominal wound be held in a line with the body, and the bowel be in its true direction—*i.e.*, the apparently upper end be really so—the hand, passed along the side of the bowel and backwards towards the spine, will be guided by the mesentery—if this last be held out taut from the spine—to the same side of the spinal column. Thus, passed to the right side of the spinal column. Thus, passed to the right side of the bowel, the hand will be conducted by the mesentery to the right side of the column; to its left side, if passed to the left of the bowel. Here, at the mesenteric root, the hand may be passed upwards and downwards, without hindrance, along its attachment. But, should the apparently upper end not be really so, the hand, passed to the right of the bowel, will be guided by the mesentery over to the left side of the spine; passed to the left of it, it will be guided over to the right side. In explanation, we may look upon the mesentery as a partition dividing the abdominal cavity into two compartments, having a simple arrangement of right and left posteriorly at the spine, but completely arranged towards the free intestinal border.

The above method has been tried, always with correct results, by several of my friends, and by myself, when making post mortem examinations. It seems to me to be worthy of trial on the living, and will, I hope, in some cases, clear away doubt.—R. Frank Rand, M.B., F.R.C.S., Liverpool.—*British Med. Journal.*

THE PREVENTION AND TREATMENT OF CHILBLAINS, By Dawson Williams, M. D., Lond., in *British Medical Journal.*—I doubt whether it can be correctly said that chilblains are local congestions. With the exception of the very mildest and slightest cases, if even these can be excepted, there has always seemed to me to be something more than congestion. The classical signs of inflammation, *rubor et tumor*, *cum calore et dolore*, are all present; indeed, a chilblain, in its first or so-called erythematous stage, presents a remarkably good illustration of a simple acute dermatitis. If neglected at this period, a blain rather rapidly forms, and, under the slightest friction, quickly gives place to a very tender superficial ulcer; this ulcer is surrounded by skin which is acutely inflamed and tender. It is this combination of a superficial and very vascular ulcer, with extensive underlying and surrounding inflammation of the skin, which is most characteristic of the latter stage of chilblain. The least touch on the diseased finger gives pain; and the dread excited by the fear of a blow or rough handling may render the sufferer so miserably nervous, as to lead him to seek to escape from games and outdoor amusements, and so to avoid the means, that the article to which I have referred most justly recommends, as best tending towards prevention. Boys are very merciless to each other; and I believe that the best and quickest treatment, when a case has reached such a stage as this, is to put the boy on the sick-list for a day or two, and apply continuous poultices until the surrounding inflammation has gone down, and we have to deal only with the ulcer, which will quickly heal under favorable conditions. Occasionally, beneath the blain, or even before it has appeared, a limited sphacelus, involving the whole thickness of the true skin, occurs; after this becomes detached, a deep ulcer, with sharply cut edges, is left, but without any marked amount of surrounding inflammation. This ulcer is much less painful than the condition above referred to, and heals slowly, but without any difficulty, though it leaves, of course, an ugly scar. It is the first or so-called erythematous stage that is most amenable to treatment. My experience quite agrees with the statement that counter-irritants do no good. An exception might, perhaps, be made with regard to iodine, which seems to act, however, more as an astringent, and perhaps, by hardening the outer layers of the epidermis, may cause some pressure on the deeper layers of the cutis. Collodion is worse than useless; after drying, or even in the process of drying, it splits and cracks in various directions, and in each crack in the collodion a crack in the skin is liable to occur. Careful packing with cotton-wool, as recommended in the note on chilblains above referred to, is the most trustworthy treatment. A little calamine lotion, applied first, and allowed to dry, will help to allay the distressing itching.

It may be remarked that chilblains are

especially apt to occur when the weather is both damp and cold. As a boy, I have often gone through a fortnight's frost with no chilblain's, or the very slightest; whereas, as soon as the thaw has set in, my hands have at once become covered with numerous chilblains. The explanation of this is to be found in the fact that, in a thaw, the air is heavily charged with moisture, so that it is impossible to keep either boots or gloves dry, and the bared hand must be always moist. The evaporation which, under these conditions, is always going on, must necessarily keep the temperature of the parts continuously, for extended periods, below the normal. My experience is that, probably for the same reason, it is a mistake to wash the hands in tepid water; and warm water is, for the reasons assigned in the article, not to be recommended. I was early led by my own sensations to prefer very hot water. To plunge the hands in hot water, and then to raise the temperature still further by the addition of fresh quantities of still hotter water, certainly allays the irritation, diminishes the size of already existing chilblains, and, I believe, also, of "hot water" is, as its recent use as a hæmostatic has proved, essentially different from the action of "warm water." Further, I believe that the use of "hot water" for washing the hands is beneficial, because they can be dried more rapidly and surely than when tepid or warm water has been used. In the case of children subject to chilblains, I should, therefore, recommend woolen stockings, armlets (reaching to the axilla); the use of very hot water for washing hands and feet, and rapid drying with a dry absorbent towel; and, finally, the exercise of the greatest care in seeing that boots and gloves are dried before use. To dry the boots, whether apparently wet or not, the soles should be exposed to the fire, and cautiously approached to it until thoroughly warmed through. The constitutional condition which underlies the pathology of chilblains is, no doubt, benefited by the use of tonic remedies, such as iron-phosphate; but not, I believe, by cod liver oil or high feeding.

On the Relations Between Dental Lesions and Diseases of the Eye. By Henry Power, M.B. Lond., F.R.C.S., In the *Medical Press.*—The connection between dental disease and affections of the eye is not at first sight very apparent, but it has been noticed, though for the most part only casually, by many writers. I have taken some trouble in looking through the treatises of those authors on opthalmic diseases who have written in the course of the last hundred years, and the first writers I have met with who distinctly refer to the teeth are Travers, who speaks of strabismus caused by difficult dentition, and Frick, who, in 1826, speaking of the causes of strabismus, remarks that it is "often concomitant with difficult dentition;" whilst Welbank, who translated Frick's book, in a note on the treatment of amaurosis, states that he has obtained good results from the employment of carbonate of iron in cases of amaurosis "proceeding from disease of the dental nerves." After this period, difficult dentition and dental disease are often mentioned incidentally amongst other causes of ophthalmic disease.

I presume that you will all accept as a fact, that which is admitted by all ophthalmic surgeons, that there is such an affection as reflex or sympathetic ophthalmia, that is to say, that irritation of one set of branches of the fifth will affect those of the opposite side. If any ophthalmic surgeon be asked why he believes in reflex irritation of the globe and its appendages, his mind at once reverts to many cases in which injury to one eye, especially of the ciliary region, has been followed, after a period of very variable duration, by inflammation of the uninjured eye of a low but steadily progressive type, generally involving all the tissues, and leading to more or less serious impairment, or even to complete loss, of vision.

If the question be put, how does the irritation or inflamation of one eye come to affect the other—by what path, or paths, does the irritations travel? the reply given, both by exact clinical observation and by pathological investigation is, that in the vast majority of cases there is a neuritis which travels along the ciliary nerves, but in a few instances along the optic nerves, and we shall see that this conduction of the morbid process along the sheaths of the nerve is of considerable importance in enabling some explanation to be given of the occurrence of reflex troubles where the teeth are the seat of the primary lesions.

Injuries affecting the branches of the first division of the fifth pair are well known to affect the eye of the same side, and there are good reasons also for believing that affections of other branches of the fifth pair of nerves may be the cause of ophthalmic troubles.

In 1853, M. Decaisne, staff surgeon of the Belgian army, presented to the Academie de Belgique, (1) under the title of "*Sur les dents œillieres*," a note on the disturbances of vision consequent on alterations of the teeth, in which he states that he saw an officer struck on the forehead with a piece of wood in the course of the frontal nerve, which caused complete blindness, and then remarks that it is not uncommon to see diplopia, or even complete loss of vision, supervene, either with or without ulceration of the cornea, as a result of disease of the maxillary sinus.

That injuries to the supra-orbital nerve are occasionally followed by amaurosis seems to be well established. Thus Nossi (2) reports a case where a peasant was struck by a knife which cut the brow. M. Nicaise (3) states that he has on various occasions noticed the coincidence that exists between affections of the nasal fossæ and those of the eye. He believes he has thus been able to recognize a connection between the occurrence of nasal polypi and glaucoma, attributable to irritation of the many branches of the fifth pair which are distributed to the mucous membrane lining the nasal cavity. Demours (4) gives a case of amaurosis supervening after extirpation, *secundum artem*, of a sebaceous cyst of the size of a hazel nut; the same evening inflammation of the eye supervened, and the next morning the eye was lost.

In 1870 M. Delestre published an essay on accidents following extraction of the teeth, and reports several cases which tend to prove the existence of visual troubles. He remarks that odontalgia is often accompanied with weeping and redness of the conjunctiva, with sudden darts of pain, and winking of the lids. He considers that there is at first irritation of the branch of the dental nerve supplying the affected tooth, and which is, therefore, one of the branches of the superior or of the inferior maxillary nerve. This irritation of one part of the fifth extends to other parts of the fifth, and particularly to the ophthalmic, which leads to lachrymation, and redness of the conjunctiva.

My object to-night is to bring before you some evidence of the occurrence of ophthalmic affections as a consequence of dental disease. And the grand difficulty that I have met with in drawing any definite conclusions, is the extreme frequency with which dental affections present themselves. Thus, to take one affection alone, I was desirous of ascertaining whether dental caries and phlyctenular ulcer of the cornea stood to each other in the relation of cause to effect; but on examining the teeth of my young patients with phlyctenulæ, I found they all had carious teeth. It might be said, is not that evidence that there is a close relation between the two affections? but, unfortunately for this view, the disease can readily be cured—in many instances—by the means usually adopted in ophthalmic practice without the extraction of the offending teeth, so that they only fulfill half the old adage constituting a *vera causa*, "*præsens morbum facit, sublata tollit.*"

Having, however, established the existence of reflex irritation of the eye, it will perhaps be the best mode of treating of the various modes in which that irritation may express itself, if we consider it under the three following heads:—

1. Reflex irritation affecting striated and unstriated muscle.
2. Reflex irritation affecting the mucous membrane and cornea.
3. Reflex irritation affecting the optic nerve and retina, and intra-ocular tissues.

In regard to reflex irritation affecting muscular tissues, we may mention—

1. Paresis of the ciliary muscles.
2. Paresis of the intra-orbital muscle.
3. Paresis of the muscular fibres of the iris.
4. Paresis of one of the ocular muscles.
5. Paresis of the orbicularis palpebrarum muscle.

One of the commonest forms of visual disturbance, induced by dental disease, is *loss or failure of the power of accommodation.* By power of accommodation is meant the faculty which the eye possesses of adjusting its refraction so that well-defined images of objects situated at different distances from the eye may be formed upon the retina. This is accomplished, as is now well known, by the action of the ciliary muscle, which, by contracting, causes the lens to become thicker,

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1. Bull. de l'Acad. Méd. Belg., T. xiii., 1853, and "Archiv. Med. Mil.," 1854.
2. Himly, i. 89.
3. Gaz. Med. de Paris, 1871, p. 150.
4. T. I, p. 173.

The influence of dental lesions on the accommodation has been particularly investigated by Dr. Hermann Schmidt, of Berlin. This observer examined the eyes of ninety-two patients, who presented themselves at his clinic, suffering from some form of dental disease—such, for example, as caries, periostitis, or neuralgia. Considerable pains were taken to determine the range of accommodation in both eyes, and to compare that on the sound with that on the unsound side; whilst reference was made to the tables of averages for each eye given by Donders. Amongst the ninety-two cases Schmidt found there were only nineteen cases in which the range of accommodation was normal, or better than normal; in the remaining seventy-three cases the range was lowered, and in most instances considerably reduced. In unilateral odontalgia, the range of accommodation was reduced on the same side in thirty cases. In fifty-one cases there was no difference in the diminution of the range of accommodation perceptible. In one case, the eye of the side opposite to the unsound teeth, was the weaker of the two. In nine cases the teeth were carious on both sides. It appeared further that the influence of dental lesions on the accommodation was more frequent, the younger the patient, the ages between ten and twenty being those in which the paresis was most marked. After thirty years of age the impairment of the power of accommodation was much less frequently observed.

In regard to the locality of the dental lesion; in forty-one cases in which the upper maxilla was affected, paresis of accommodation was observed seventeen times. In thirty-nine cases in which the lower jaw was affected, the paresis was observed nineteen times. Disease of the teeth of the *lower* jaw, therefore, appeared to be somewhat more effective in producing failure of accommodation than that of the upper.

The nature of the dental lesion appeared to be of little importance, great impairment of accommodation accompanying comparatively slight disease, whilst extensive disease of the teeth, accompanied by severe pain, was associated in some instances with only slight paresis of accommodation.

The explanation of this remarkable effect of dental lesion is not quite clear. Two views may, it appears to me, be taken of it. We may regard it as a reflex character, and as being analogous to that weakness or paralysis of infancy, and which we may consider to be of the nature of an inhibitory influence, since they rapidly supervene and rapidly vanish; or we may regard it as a simple result of the generally lowered tone of the system, consequent on the depressing influence exerted on the nervo-muscular and circulatory system by prolonged toothache. There can be little doubt that the sympathetic nervous system and the unstriated muscles participate in this depression; and we can easily understand how there is a corresponding diminution in the power of the ciliary muscle, and failure of accommodation.

Schmidt himself advances a very different explanation. He believes that in these cases a reflex stimulation of the vaso-motor nerves takes place, leading to increased intraocular pressure, and consequently to impairment of the power of accommodation. But when Schmidt's paper was written the action of the vaso-motor nerves was less known than at present. And such reflex stimulation would seem calculated to lead to a diminution, rather than to an increase, of intra-ocular tension.

Another class of cases in which a reflex influence appears to be exerted upon muscular tissue is that in which the muscular tissue of the iris is affected. This condition is termed *iridoplegia*, or *mydriasis*. In it the pupil is widely dilated and motionless, owing, as is generally believed, to paralysis of the sphincter pupillæ, which is supplied by the ciliary nerves containing branches of the third nerve; but it is possible that it may be due to contraction of the dilatator iridis, if such a muscle really exists, and this might be produced either by irritation of the branches of the sympathetic or of the fifth pair, which Bilogh believes supply it. (1) It is remarkable and suggestive of its mode of origin that mydriasis rarely, if ever, occurs simultaneously on both sides, and in many cases that I have seen in past years I have scarcely ever been able to trace the ætiology, though I must admit that I have not paid special attention to the teeth. It is instructive to find that in one case recorded by Desmarres, a cure was effected by the extraction of a carious molar, and in future I shall certainly, in any case of the kind that may present itself, make a careful examination of the teeth.

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1 Wecker, i, 407.

One case, and so far as I know one case only, of *oxophthalmia* has been placed on record. It is contained in a recent number of the *Recueil d'Ophthalmologie* of Galezowski, p. 441, and is reported by Weinberg. The chief facts of the case are that a widow presented herself in the out-patient department with an exophthalmia, accompanied by severe pain of the right eye. She had suffered for thirty-five years from epileptic vertigo and cramp of the stomach. In the month of March of last year she had an attack of phlebitis of the left femoral vein, and on examination she had varices in this leg, and some œdema of the left leg. For five weeks previously she had experienced noises in the right ear, with fronto-temporal cephalalgia of the same side and pricking sensations of the eye, which lost its normal aspect, and she had intermittent sleeplessness. The pricking sensations gave place to lancinating pain, the eye reddened, and the bulbar conjunctiva was strongly injected. For four days previous to her appearance the vision had become hazy.

On examination the tension found to be + 1, and there was exophthalmia of the right eye. The cornea was hazy; the palpebral and bulbar conjunctiva were much injected; the movements of the eye outwards and inwards were insufficient. Ophthalmoscopic examination showed floating particles in the vitreous, and as she was myobic acrescent, the peripheric retinal veins were injected. The whole retina was redder than natural; near the macula were several hemorrhagic spots. The heart, arteries, lungs, and the urine were normal. She could read No. 1 at three inches distance. Two leeches were ordered to the right temple; alternating instillations of atropine and eserine were ordered, but the former gave pain and was discontinued.

Ten days later, severe periorbital pain being experienced, with acute chemosis, the teeth were examined, and two carious teeth and a stump were found and promptly extracted. The results were remarkable. In the course of three days the patient was greatly improved in health, the chemosis had disappeared, as well as the injection of the conjunctiva, and above all the exophthalmia.

In such a case as this we might attribute the relaxation of the vessets spoken of as conjunctivitis to paralysis of the vaso-motor system, and consequent passive dilatation of the conjunctival capillaries; whilst the protrusion of the globe may have been due to relaxation and loss of tone of Turner's periorbital unstriated muscle and of the several recti muscles, as well as to relaxation of the vascular and lymphatic systems behind the globe—all conditions that are explicable on an inhibitory influence being exerted by the damaged tooth.

That strabismus may be induced by dentition, and especially by difficult dentition, is, I think, generally admitted. Travers, as long ago as 1824, wrote: "Strabismus is also a symptom of irritation arising from difficult dentition." Yet the opinion that dentition is a cause of strabismus seems to rest on a general consensus of opinion only, rather than upon any special well-authenticated cases, and the frequency with which it is referred to in recent books is much less than was formerly customary; in fact, in some of the more recent treatises in Germany and France it is not even mentioned.

This is attributable to the important generalisation of the ætiology of strabismus made by Donders, that in by far the greater number of cases it is due to hypermetropia.

Other striated muscles that have been noticed as being occasionally affected in a reflex manner by disease of the teeth have been the levator palpebræ and the orbicularis palpebrarum; the former supplied by the third nerve, the latter by the seventh; the paralysis or paresis of the former leading to more or less expressed *ptosis*, the latter to *lagophthalmos*. Ely (¹) has recorded three good cases of such affections, in one of which there was paresis of the orbicularis palpebrarum, with irregular spasms of the ciliary muscle and monocular diplopia. In another there was paresis of the rectus internus and ciliary muscles, and in a third case partial paresis of the third nerve.

An affection that is not unfrequently observed is that which is termed *blepharospasm*, or incessant winking of the lids, the movement being sometimes limited to the orbicularis palpebrarum, but at others extending to other muscles, such as the zygomatici and levatores anguli oris. This affection is well known to be associated with the error of refraction known as hypermetropia, when a powerful effort of contraction of the ciliary muscle is demanded. The impulse emanating from the brain, instead of being limited to the nerve supply-

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1. New York Med. Record, Nov. 11.

ing the ciliary muscle, has a strong tendency to radiate through other channels, and consequently to affect other muscles; while in some instances the secreto-motory fibres of the fifth nerve are excited, and a copious discharge of tears results.

But that similar conditions may be established in a reflex manner by some lesion of other nerves is well shown by a case that was reported, many years ago, by Von Gräfe to the Medical Society of Berlin. In this instance the blepharospasm ceased almost instantaneously when pressure was made upon a point situated below the alveolus of the third inferior molar tooth. At this point an incision was made down to the bone, but without modifying the blepharospasm in any appreciable degree. But having then established the fact that compression of the sub-orbital nerve and of the temporal branch of the malar materially diminished the spasm, section of these nerves was performed. The spasm immediately ceased, and the case was thought to be cured, but it reappeared at the expiration of a fortnight. The section of the inferior dental nerve performed within the month ultimately caused the blepharospasm to cease entirely, and it had not reappeared four weeks after. A case of convulsive tic, as he terms it, has also been recorded by Mitchell, which, supervening spontaneously, was propagated to the muscles of the neck and arms, and which entirely disappeared after the removal of several teeth.

As additional evidence of the influence of the stimulation of other and distant parts of the nervous system on the orbicularis may be mentioned the observations of Claude Bernard; for this experimenter found that section of the sympathetic is followed by partial closure of the lids, and inversely if blepharospasm is induced in an animal by irritating the cornea with some caustic substance it may be removed by galvanizing the sympathetic in the neck, when the lids open immediately, as if by magic.

MOVEMENTS OF THE UTERUS.—Prof. Kronecker and Herr Frommel (*Du Bois Archiv*, 1883, Heft 2 and 3,) have made experiments upon this point, using the graphic method, which heretofore has not been employed. Previous observers watched the effects upon the bared organ, not discounting the injurious effect of evaporation and cooling of the uterus. Thus Frommel arranged his experiments as follows: in the vagina of a rabbit a perfusion-cannula, with a funnel-shaped end was so bound in that one of the cornua was connected with the funnel. In the upper end of this cornu of the uterus a simple glass cannula was fastened. The other one of the cornua of the uterus was ligated near the os uteri, since a want of synchrony between movements of the cornua complicates the curve. Through the glass cannula a six-tenth per cent. salt solution, of temperature 38°, was conducted, and after closure of the upper cannula, one of the cornua was under a tension of about ten cm. of water. The inlet end of the perfusion-cannula was clamped and attached to a Grünmach-Marey polygraph, whose lever denoted on the kymographion the changes of the cornua. The spontaneous movements were excluded by a section above the respiratory center, excluding the large and middle brain. The animal breathed well and regularly for many hours. When the uterus was carefully replaced in the abdominal cavity and the temperature and circulation kept as nearly normal as possible, then wave lines appeared on the kymographion, marked as those seen in movements of the diaphragm. The movements are spontaneous and rhythmic like those seen with excised heart of a frog. Their conclusions were as follows:

1. The uterus possesses in all stages of its development in mature rabbits the ability to cause rhythmic contractions.

2. When the temperature sinks (29° C. in rectum) gradually the contractions become more seldom, but their energy does not decrease; if the normal temperature of the animal is increased (38°), then the contractions become more frequent, by 39° considerably smaller, and by 40° irregular, and by 43° they are completely lost.

3. Disturbances of the circulation influence the movements of the uterus; compression of the aorta in a short time stops them.

4. The movements of the uterus are not connected with a center lying outside of them, for they remain after complete isolation.—*Journal of Nervous and Medical Diseases.*

SALICYLATE OF SODIUM IN PHLEGMASIA ALBA DOLENS.—M. Vigar states that he has attended four cases of this affection.

In the first he used no internal remedies, limiting himself to the local measures advised by various authors, keeping the patient in bed two months, and even then a certain degree of œdema remained, with a few nodosities on the course of the inflamed veins; these disappeared very slowly, and at the end of five months slight traces of them were still discoverable. In his other three cases he used the salicylate of sodium, with very good results. He gave it to the extent of one drachm per day, and after the first day found that the temperature fell very decidedly, the pulse became slower, and the œdema diminished to a very notable extent; the disease passed through its phases of inflammation and repair in so short a time that not one of the three patients was confined to bed longer than the third week. No signs of œdema or of nodosities on the limb remained.—*Glasgow Medical Journal.*

MISCELLANY.

On the Comparative Death-Rate of Total Abstainers and Moderate Drinkers, as Disclosed by the Records of Insurance Companies.—Dr. C. R. Drysdale read the following paper before the British Medical Temperance Association:

In his opening remarks the author of the paper said he had compiled the following statistics to make more clear than before the effect of alcoholic drinks in causing disease and death, and they certainly tended to made it evident to all who were familiar with medical evidence that alcohol in future should, like ether, chloroform, and opium, be considered merely as an agent of the physician, and not as a safe article of daily consumption. The effect of alcohol in causing disease had gradually become known. In 1865 Dr. Lancereaux, of Paris, found that one-twentieth of all the deaths occurring in the Parisian hospitals were due to drink, and Drs. B. W. Richardson, Norman Kerr, and the Committe of the Harveian Society had estimated the deaths in the United Kingdom directly caused by alcohol at about 40,500 annually, which was also not far from 1 in 20 of all the annual deaths occurring in these islands. Dr. Lees had shown at Bradford in 1881 that the Rechabites or teetotallers of that city had had an average of 4 days 2 hours of sickness, and a death rate of 1 to 141, as against the Oddfellows, who had had 13 days 10 hours of sickness and a death rate of 1 in 44 annually. Many of the London insurance companies recognized the fact that teetotallers' lives were much better than those of moderate drinkers, and they gave bonuses and exacted lower premiums from total abstaining customers. The Emperor made a reduction in its premium equal to an immediate bonus of from £5 to £8 on an assurance of £100 to total abstainers, *i.e.*, the difference of the premiums would secure that amount more assured. In the Whittington Insurance Company teetotallers and moderate drinkers are kept separate, and the former receives a much larger bonus every five years than the latter. Mr. John Phillips, of the Sceptre Life Assurance Company, says that thirty years' experience has proved that total abstainers are much better lives than moderate drinkers. He mentions that, for the six years ending Dec. 31, 1881, the expected claims in the General Section were 373, and the actual claims 287, or 77 per cent., whilst in the Temperance Section the expected claims were 130, and the actual claims 64, or only 46 per cent. of the expected claims. And this, too, in a society where the largest amount of business was obtained from a most abstemious and regular class of persons, a fact shown by the comparatively low death rate of those insured in the General Section, far lower than is usual among moderate drinkers. Yet the total abstainers here, as elsewhere, live far longer. In the Briton Life Association, which has the honor of having Dr. B. W. Richardson on its Board of Direction, total abstainers are allowed at once to insure their lives at premiums of 10 per cent. less than those of moderate drinkers, and it is believed that this is even more than they ought to pay in consideration of their far lower demands on the funds of the office. A new company, the Blue-Ribbon Life, Accident, and Industrial Insurance Company, indeed, has commenced at once to allow a lower premium to all total abstainers than the one usually charged by companies which insured moderate drinkers, besides granting bonuses on the profits every five years, as is common to other insurance companies. The results of the Temperance and General Provident Institution have been long known. That society has about 10,000 policy holders who are total abstainers, and some 20,000 who are moderate drinkers. The death rate of the moderate drinkers is far higher than that in the Sceptre; for, in the 16 years between 1864 and 1880 there were 4,080 deaths expected to occur among these moderate drinkers, and 4,044 did die, or about 99 per cent.; whereas, on the other hand, of 2,418 deaths expected to occur among the total abstainers only 1,704, or 70 per cent., died. And in those 16 years the widows and legatees of these moderate drinkers were expected to ask for £833,792; but the actual claims were £869,058, or an excess of £35,296. The teetotallers, on the other hand, who were widows and legatees, were expected to demand £481,000, but actually clamed only £321,840, leaving in the hands of the Company no less than £159,160. It further appears that the quinquennial bonuses paid in society to teetotallers were 17½ per cent. greater than those paid to moderate drinkers. In hot climates the mortality caused even by moderate drinking among Europeans is very great. Thus, Colonel Sykes, in 1849, in Madras found that the total abstaining troops had 5 deaths in 450 abstainers, whilst 100 deaths occurred among 4,318 moderate, and 42 deaths among 942 immoderate drinkers, *i.e.*, at the rate of 11.1 per 1,000 for the abstainers, 23.1 for the temperate, and 44.5 for the intemperate. Mr. Bowser, at the meeting of the Whittington Life Office, in 1881, mentioned that the death rate in the Temperance Section had only been 23 per 1,000, and in the General Section it had been 50 per 1,000. The London, Edinburgh and Glasgow Insurance Company insures both lives and against accidents, and in both sections finds that the total abstainers are far safer. In the prospectus of the Accident Insurance Section it says: "A policy holder who is and continues to be a total abstainer from alcoholic fluid is allowed, after three years, a further reduction of 7½ per cent., making 20 per cent. in all, by way of bonus upon the above conditions, instead of 12½ per cent. as allowed in the General Section." The Lancashire and Yorkshire Accident Company acts in the same way, and claims to have been the first company to think of giving this boon to teetotallers.

Taking all these wonderful statistics together, Dr. Drysdale said that henceforth it was out of the question to argue that a daily dose of alcohol could do no harm. That was quite against the evidence of these statistics. As a consequence of them, he confidently maintained that medical men would, in the future, have to become themselves total abstainers, and advise their patients to become so, only using alcohol in case of disease. As it was at present, if some one-twentieth of the population died poisoned by alcohol, that agent could only be regarded as one of those formidable "positive checks to population," which cut off the surplus numbers where the birth rate was, as here, too high for the food supplies to maintain in health and comfort.—*Medical Press.*

VACCINIA AND VARIOLA.—Some of our readers may remember how, in April 1881, Dr. Leonhard Voigt, the Superintendent of the Vaccine Institute at Hamburg, experimentally solved the vexed question of the origin and nature of cow-pox, and vindicated triumphantly the reputation of our immortal countryman Jenner. The subject, however, is of such importance that, before stating the conclusions at which he has arrived after two years' constant and laborious observation and experiment, it may be as well shortly to recapitulate his earlier proceedings.

Two views had hitherto been, and, notwithstanding Dr. Voight's absolute demonstration of the erroneous character of one, are still, held on the relation between cow-pox and small-pox. Jenner believed that horse and cow-pox were originally derived from man, and were, in fact, modified forms of small-pox, altered by their transmission through the bodies of the lower animals. Ceely and Babcock in England, and Thiele in Russia, held the same views, and believed that they had successfully effected the transformation. The former, in 1840, sent some of his lymph to Schneemann in Germany, where it was long used with the best results. But Dr. Martin, of Boston, a strong advocate of animal vaccination, on trying to repeat the experiments of Ceely, set up an epidemic of small-pox, the disease spreading from his vaccinated subjects by ordinary contagion; and the like unfortunate consequence followed other attempts of the same kind, and put a check to further enterprise in the same direction.

The second opinion is that of the French school, represented in this country by the veterinary surgeon Fleming, and shared by many of less note. It may be briefly stated as follows: Small-pox, sheep-pox and goat-pox, are acute specific diseases, highly infectious, attended by general febrile disturbance, and extremely fatal; in fact, bearing a close resemblance one to the other, but not mutually protective. Horse-pox, cow-pox, and camel-pox, on the contrary, are merely local diseases, with little fever, and no danger to life, communicable only by actual contact or inoculation; and yet, strange to say, each of them is antagonistic to, and protective against, small-pox. Small-pox, they say, if inoculated into the cow, is unaltered; the local manifestation is merely a blind boil in most cases, but, if any fluid can be obtained from it, it is still small-pox virus pure and simple. They thus account for Martin's unlucky experience, and explain away Ceely's seeming success by urging that his supposed vaccinations were, in fact, mild and favorable examples of inoculation of small-pox itself, though they find it best to ignore the subsequent successes of Schneemann.

This was the position of parties when, in the winter of 1880-1, Voight resolved on investigating the whole question afresh. His first attempts to inoculate the calf with human small-pox were, as usual, unsuccessful; indeed, the difficulty is such that Reiter failed in fifty trials, extending over ten years, though he succeeded in the fifty-first. On the fourth occasion, using pus from a virulent case of unmodified small-pox, Voight was rewarded by the production of a *bouton*, on which a small vesicle appeared for a few hours. He found what he deemed a *corpus vile*, in an ill-nourished scrofulous child, not previously vaccinated, and under treatment for itch, in a ward in which small-pox had just broken out. Somewhat rashly, he vaccinated the child with the fluid from his vesicle; the results were alarming, the intense fever, axillary buboes, etc.; but, fortunately for all parties, the child survived. He then vaccinated a calf with the same lymph, and a third from the second, and so on. From the fourth in succession he vaccinated four children; of these, one failed to take, but the others were rather severely affected. From the thirteenth and fourteenth calves he again vaccinated children, with excellent results. Indeed, from and after the ninth in a series of calves, the pustules were indistinguishable from the best Beaugency stock, both in themselves and in their results on the human subject. Voigt therefore concludes, not only that Jenner was right in his idea of the origin of cow-pox, but that Martin's untoward results were due to his having, like himself, used variolous matter of a virulent type, and neglected the precaution of mitigating it by successive transmissions, or, as Pasteur would say, cultivations, in the calf. All cases of cow-pox supposed to be spontaneous are, he believes, cases of unintentional variolation, or retrovaccination, as when a woman milks a cow after handling her recently vaccinated infant. Thus, too, he explains the usual seats of the disease in the horse and the cow, the ankles of the former and the udders of the latter being the parts most frequently handled; and the exemption of the males, bulls or oxen, is easily intelligible on the same hypothesis, for in retrovaccination bull-calves are found to be quite as susceptible as the other sex. The various sources of the so-called spontaneous cow-pox in vaccine, in modified and mild variola, or in variola of a severer kind, equally account for the varying intensity of the results obtained in the first vaccination performed therewith.

During the past eighteen months Dr. Voigt and his colleagues have used the "new lymph" on a large scale, both for retrovaccination of the calf and for vaccinations and revaccinations of the human subject of all ages, and prefer it to ordinary humanized or to Beaugency lymph. Unlike the older stocks of animal lymph, it keeps remarkably well in tubes, with or without glycerine. An unavoidable change of quarters, leading to a temporary deterioration, brought out the fact that dry and well-ventilated stalls were essential to success in bovine inoculations, whether with variolous or with vaccinal matter, as he had already been led to consider a moderately low temperature more favorable than a higher.

In his most recently published report, he sums up the results of his observations under nine heads, which may be looked on as an epitome of the whole question.

1. It is possible to create vaccine by the inoculation of the calf with lymph from the pustules of human beings the subjects of small-pox, but success must not be expected in every case.

2. The energy of variola-vaccine ob-

tained in this way is such that it is not fit for the purpose of vaccinating human beings until it has been several times transmitted from calf to calf, or from ox to ox, and its intensity has been thus diminished.

3. In the first year this new lymph has a greater protective power than animal lymph of older stocks.

4. Vaccinia and variola are derived originally from the same contagium, and give to those affected by them an immunity one against the other.

5. The duration of this immunity depends on the intensity of the pathological process.

6. After the lapse of twelve years, persons who have been attacked with small-pox show the same susceptibility to vaccination as those who have been vaccinated at an equally remote period; consequently children of twelve years of age, vaccinated in infancy, present a moderately favorable soil for the poison of small-pox.

7. Therefore, revaccination of all children at or even after the age of twelve is highly to be recommended.

8. Animal lymph, originally very active, diminishes in efficacy when transmitted from calf to calf, sooner than humanized lymph transmitted from arm to arm. On the whole, *i. e.*, after a long time, humanized lymph gives better results both in man and beast; whence it follows that animal lymph from old stocks gives less success than retrovaccine of the first generation.

9. Carefully generated, and in well-ventilated and regulated stalls, variola-vaccine is the most energetic of all, not only when taken direct from the calf, but especially in its humanized form. Consequently, if we would obtain the most powerfully protective lymph we should, when occasion offers, from time to time, reproduce a stock of variola-vaccine.—*British Medical Journal.*

EUTHANASIA.—From *death* there is no escape. It comes to every one sooner or later, and to all it is the most serious event of life. It is the "king of terrors," and the one thing from which all men would escape if they could.

Some have this fear of death before them all the days of their lives, embittering all their days—fortunately these are but few. For the majority there is a blessed forgetfulness of death, and when it comes it is as much a surprise as if no one had ever died. Even to the last gasp the mortal clings to life, hopes against hope, and believes in a possible recovery.

Some die easy, others very hard. To some it comes as a sleep, a freedom from pain and suffering, a rest for the weary body and mind. To others it is most intensely painful, and the struggle to die is the most severe and horrible, and protracted for hours and hours, until the bystander is heartsick, and prays for death as the greatest boon.

Physicians become so habituated to pain and death that they become callous to it, and do not feel for the sufferer. So long as there is the faintest chance for life they may remain with the patient and fight the battle with death. But when they give up all hope and say, "He must die, I can do nothing more," they turn from the house, leaving the sufferer to bear the rending of soul from body as best he may.

For that death that comes as sleep we all pray; from that which comes with pain and suffering and terror, we pray to be delivered. The prayer-book says, "From speedy death, good Lord deliver us." It makes a grave mistake, and we say, "When death comes let it be so sudden as to give no warning."

As the physician thinks the matter over, realizes that he himself is to wrestle with this terror, that his dearest relations and friends may suffer these pangs, he will realize that he may have a duty to perform.

Is there any advantage in the prolonged agonies of death? No. There can be none. Would it be better for the sufferer to sleep his life away? We answer unhesitatingly, yes. Why, then, should not the physician see to it that this blessed euthanasia, this sleep unto death, be given to every sufferer?

We want to be assured there is no hope, we want to know the person is dying. With this knowledge we use a hypodermic injection of one-fourth or one-third of a grain of morphine over the sternum, and in ten minutes comes rest, freedom from suffering, and sleep. It rarely shortens the patient's life, and it makes death easy.

I had two patients within a year, who, when they could not live, found it almost impossible to die. They were both good men, and had looked death in the face more than once without alarm. In the one, after a ten hours' struggle I asked, Would you like to sleep? The answer yes, and the expression of joy replacing the anguish, were enough to warrant this consideration of the subject. One injection of morphia and there was rest in ten minutes, and a sleep that faded into death in four hours. In another, after a night with death, I said to the mother, Shall he sleep? There could be but one answer. If it is possible to prevent this suffering and let him sleep, let it be done at once.

I do not believe that it is right for one to take his own life because life is only prolonged misery and suffering; and I do not think it right, in such a case, for the physician to do that which would shorten the man's days. But when death is at the door and will not be said nay, then to open the door is an act of charity.—*Eclectic Med. Journal.*

BOARDS OF HEALTH IN OHIO AND OTHER STATES.—There is to be a movement all along the line this winter for boards of health to regulate physicians. It will be successful in most States, and I think likely in Ohio, and physicians will take notice and set their houses in order.

I, with others, have honestly opposed this legislation, because we believe in the largest freedom in this as in other things. It is true that freedom sometimes leads to license, as it has in this case. Within the past twenty years a multitude of mushroom medical colleges have sprung up, for the sole purpose of selling diplomas, and, strange to say, the trade has been active and lucrative. Boards of health will kill these leeches, and to that extent they will do a good work.

I confess that I am tired of the fight, and I do not care to be considered as the champion of all this nastiness. Let "vitopathics," mesmerists, health doctors, electricians, *et id omne genus*, sit in their own dirt and fight their own battles.

If a reasonable bill is presented to the Ohio Legislature this winter, with a fair homœopathic and eclectic representation, we will offer no objections. The bill will doubtless take the form of the Illinois, Missouri, and Minnesota laws, and the matter of medical education will soon be regulated by a concerted action of these bodies.

And yet I believe that entire freedom is the most desirable state, and that in a half century people will come to this conclusion. But we take things as we find them, and to get rid of objectionable people, diploma selling and other ills, we will suffer the bonds, and probably come out the better for the purgation.—*Eclectic Med. Journal.*

CINCINNATI AS A MEDICAL CENTER.—Cincinnati has, according to a correspondent of the Chicago *Medical Journal*, 463 doctors, "regular, irregular, and defective," five hospitals, two medical colleges, two medical libraries, five medical societies, three medical journals, and a health board, and an extra proportion of midwives and bogus medical colleges.—*Medical Record.*

SELLING ADULTERATED DRUGS.—In the test case against Billings, Clapp & Co., wholesale druggists, the defendants were found guilty last week of selling tincture of opium containing a less quantity of morphine than that prescribed by the Pharmacopœia. They were fined a nominal sum, and will take the case to the Superior Criminal Court.—*Medical Record.*

DR. WILLARD PARKER is 83 years old; Alonzo Clark, 80; A. C. Post, 77; Isaac E. Taylor and Austin Flint, 71, and Frank. H. Hamilton, 70. Some of these distinguished medical men are still in active practice, notwithstanding their great age.

FEMALE PHYSICIANS IN INSANE ASYLUMS.—Dr. Sarah Stockton has been appointed physician to the female department of the Indiana State Insane Asylum.

Bibliography.

A MANUAL OF PATHOLOGY. (1)

At the present stage of our knowledge of the structural changes which constitute disease in the various organs and systems of the body, a new work on the subject is received with a cordial welcome. But, in order that this welcome may be an enduring one, the book must possess some originality, or it must approach more nearly to completeness than those which have preceded it. There are certain reasons why, at the present time, a new manual of pathology should be presented. For a number of years no work laying

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[1] By Joseph Coats, M.D., Lecturer on Pathology in the Western Infirmary, Examiner in Pathology in the University of Glasgow, President Pathological and Clinical Society, Glasgow, etc. With 330 illustrations. Philadelphia: H. C. Lea's Son & Co. Cincinnati; Rob't Clarke & Co. Cloth $5.50; sheep, $6.50.

special claims to completeness has been presented originally in the English language. In each of our text-books, but one division of the subject is treated—either the gross pathology or the microscopic, but not both. Certain advances, too, have been made, within the last few years, which have not yet been given in book form. The author of the work under consideration, having had large experience in teaching pathology to students, recognized this need of a new text-book and has endeavored to meet the demand in the present volume.

The work does not contain much that is strictly original. Much originality could not be expected; but here there is even less than one would be led to infer from a hasty examination; for, while some references to authorities are made, a number of important theories are given without due credit. We coincide with the author in doubting the propriety of these omissions.

The author is to be commended for his attempt to write the description of macroscopic appearances with that of the microscopic, and he has succeeded in its execution as well, doubtless, as could be done by any one writer on a subject so extensive, and within the limits of a volume no larger than this one.

The diction of the work is good; its style is lucid, and being original to the English language, it is free from the peculiarities of phraseology, too often causing obscurity in most of the translations.

The subject is treated under two heads: General and Special. In the former division diseases are discussed in their general aspects without reference to location; in the second division, they are considered with respect to their manifestations in certain organs and systems.

Examining the work more closely, we observe certain chapters which may be regarded as the nuclei. Among these we would note the article on bacteria. Without going so minutely into the divisions and subdivisions as is done by some writers in their classifications of the micro-organisms, our author gives a concise description of them, including the bacilli of charbon and tuberculosis. The views of Koch and Ehrlich as to the infectiousness of tuberculosis and the importance of a special bacillus in its causation are in the main adopted. The method of staining bacteria by means of the analine dyes is given, but the essential features of the process for discovering the tubercle bacillus are unfortunately omitted. The chapter on the "Organs of Circulation" and that on the "Nervous System" is also worthy of mention. The latter occupies more than eighty pages and is well illustrated. The articles, however, lack something of the conciseness of expression found in other parts of the work. This is chiefly due to the undeveloped state of our knowledge on the subjects, but some of it is owing to the fact that the author assumes to some extent the part of clinician and infers pathological conditions yet undemonstrated from the symptoms that are observed. In the section on "Diseases of the Lung," is an article on hypertrophy in which the author narrates this case: In an individual forty-six years of age, the right lung, owing to an almost total collapse of the left—congenital or occurring in very early childhood—had enlarged so as to fill a greater part of the space vacated. We are told that the redundant lung tissue had not the appearance of emphysema "at least in any considerable degree." But when we read further that the right ventricle of the heart was greatly enlarged, that the pulmonary artery showed remarkable thickening of its walls, and that the individual "in the later months of his life suffered from serious dyspnœa, followed by signs of venous engorgement," we hope to be pardoned for doubting the propriety of devoting a special article to the case. Other parts of the work are deserving of mention, but we must omit them.

The index is very complete and contains in addition to the usual catalogue of subjects, the etymological derivation of the terms.

The mechanical execution of the work is excellent. The illustrations are taken for the most part from other authors, to whom credit is duly given, but a fair number of them are original.

Whatever be the true relation of the merits to the defects in this work, it is certain that no one can read it without benefit. And while we cannot say that the author has attained the object of his aim as fully as he could desire to do, or as he may do in future editions of his book, we feel safe in pronouncing it the most complete English work we have, and we recommend it to practitioners and to students as a trusty manual. J.M.F.

Original Articles.

THE TREATMENT OF PSORIASIS.

By Cundell-Juler, M.D., LL.B.,
Cincinnati, O.

The importance of combining both constitutional and local treatment in the cure of psoriasis is of paramount importance. Hardy, of Paris, and Hebra, of Vienna, as well as Wilson and the late Mr. James Startin, of London, carried to extremes in their practice the constitutional and local treatment of this disease. While Hardy and Wilson place too much reliance in the former, Hebra and Startin, on the contrary, relied too much on the latter mode of practice. The works of modern American writers in regard to the treatment of psoriasis as it appears in this country, may be consulted, as embodying the most rational method.

The principles of medicine apply to this affection equally as well as in the treatment of any other disorder of the body. When a patient first comes under our cognizance we should make a record of his case, as in any other instance, where treatment is likely to be of long duration.

We thus commence with the name, age, sex, occupation, residence, and of what he complains; also his general appearance.

Then shall follow the history, containing his statement as to whether his father or mother or any of his kindred had a similar disease; if married, whether his children are affected with any cutaneous disorder; whether he has had syphilis, or other affections, as rheumatism, asthma, etc.; then a record should be made of the nature and duration of his past sicknesses, if any; the date of his present malady, the treatment hitherto pursued, his mode of living, the nature of his diet, the condition of his bowels, and, in the case of a female, the state of the menses.

Having thus gathered in form all that may be learned in this manner, we then give our own description of the case. We examine the patient as to the state of the tongue, the pulse, the condition of the lungs, heart, and urine, and, finally, we describe the state of the skin, giving as graphic and accurate a description as possible of the entire case.

After which we may mention the conclusions to which we have arrived and the method of treatment we intend to pursue. This will be followed by a record of our treatment at different periods, the appearance of the eruption, and any other particulars that may bear upon the subject.

Our treatment, of course, will be influenced by what we have already learned. We should, while administering a certain remedy, vary its adjuncts according as the patient is strong or weak, fleshy or spare; whether it is an old-standing case or recent; whether the disease is continuous or periodic, and whether general or limited in appearance. We have to adopt our treatment to the site covered, and judge of its chronicity by ascertaining how long it remained in one form before it changed its aspect. We have not merely to cure the disease as presented to us, but what is most difficult in psoriasis, prevent its recurrtng. We have not only to subdue symptoms, but search out and cure their cause. We have not to prescribe blindly this or that drug because it happens to have cured a similar case, but we have to pass from that method adopted at the dawn of medical science and secure to our patient all the help which modern research has placed within our reach. Sir Erasmus Wilson remarks: "The medical man allays the constitutional disturbance and the lepra gets well, not by virtue of his medicine, but spontaneously. It is the failure to see this fact in its true light that imports so many suggestions and remedies into the treatment of lepra—remedies which flourish for a week in the periodical in which they first appear, then probably languish for a year in some annual abstract of delusive cures, and then are forgotten for ever, and deservedly so—not even leaving behind them the appreciation of that small, thin streak of truth upon which they were founded." This empirical method of trying new remedies Hippocrates denounced as "slippery."

Differences in treatment are often demanded in the case of a child, an adult, or an aged person; nor should we treat alike the dissipated, broken-in-health person, or the weatherworn, ill-nourished, dispensary patient and the delicately nurtured child of the nouveaux enrichis, the dyspeptic of the nervo-sanguine temperament, or the plethoric gormand of the club-house. Treatment must be also adapted to the nationality of our patient, the manner of his early training, the character of his food, the frequency of his ablutions, and the habitude of the man. The mode of procedure that might be deemed appropriate for a German, a Frenchman, or an Englishman in his own country, changes its character with the country he visits. In such cases what is one man's food may be another man's poison. The application, however, of the principles of medicine, is the same everywhere.

The secretions of the child should be corrected with an acid and stomachic remedies, as calcined magnesia and powdered rhubarb, well triturated in a mortar, with the addition of syrup. In the case of the over-fed child, hydrargyri cum creta, grains five, triturated with one drachmn of lump sugar for fifteen minutes in a warm mortar, and given in five-grain doses every evening. In addition to this treatment, a simple, nutritious diet should be enjoined, regulating the quantity by the actual need of the child. In the case of one who is ill-fed and emaciated, approaching us with an unsteady gait and a somewhat melancholy cast of countenance, lime-water and milk, cod-liver oil, and beef essence, or even a little wine for its stomach's sake, may be given. In the adult the excretions by the kidneys, bowels, and skin must receive special attention, and any gouty or rheumatic tendency corrected. Regulating the diet in psoriasis is not so important as in eczema, acne, prurigo, etc. It is, therefore, not necessary, as a rule, to deprive the German or Englishman of his malt liquors, or the Frenchman or Italian of his wine. In all cases we should discountenance intemperance and disallow whisky or brandy. In the aged especially, the nature of the diet seems of no moment in arresting or aggravating the disorder. As an episode I shall relate the instance of a patient of mine, eighty-four years of age, inclined to attacks of colic and constipation, who, after having been to a funeral, and being somewhat fatigued, walked, on a cold, blustering day, across the Covington suspension bridge. The following day an eruption appeared upon his lower extremities, which a druggist treated for tetter, but afterward for erysipelas. When he applied to me this acute attack of psoriasis had extended to the knees, and was attended with considerable itching. Seven grains of potassii bromidum at bedtime were prescribed, and spiced soup, with a little wine, as a part of his diet. He made a rapid recovery, and had no relapse. In the case of a wealthy neighbor of his who, about the same time, suffered from a similar affection, no internal medicines were given. He bought his tickets for the bath at wholesale, and came regularly to his ablutions in the city, till pneumonia laid him low.

Having discussed the preliminaries of treatment, special remedies now invite our consideration. They comprise arsenic, antimony, colchicum, aconite, iron, iodide of potash, bromide of calcium, acetate of potash, tar, carbolic acid, balsam of copaiba, and, in exceptional cases, atropine, pilocarpine, ergotine, and eserine. Those who may not object to the taking of medicine in a bulky form, can imbibe some of the vegetable alteratives with advantage, as the althœa officinalis (marshmallow), the arctium lappa (lesser burdock), guiacum, sassafras, mazereum, dulcamera, galium, aperine (goose grease), etc., in the form of decoction.

In chronic cases of psoriasis, presenting the dry, scaly appearance without any local excitement, arsenic ranks almost as a specific. The terminal nerves penetrating the papillæ pierce the rete malpighii and are lost in the cells. Some observers think when they enter the epidermis they degenerate into granules of nervous substance, which, becoming free, are transported into the inert layer of the epidermis. Arsenic exercises its sedative effect upon these wandering nerve elements, and especially upon the rete malpighii controlling cell elements, and eliminating effete material from the skin. Arsenic, according to Prof. Hans Meyer, acts by increasing the acid of the blood, which Dr. Brunton thinks is due to its diminishing oxidation. Dr. Gaskell showed that acid in the blood produced dilatation of the blood-veesels, and this relaxation probably induces the œdematous condition of the eyelids. In administering arsenic, in thousands of cases of skin disease, I have invariably commenced with five-drop doses of Fowler's solution, or ten-drop doses of De Valangin's solution. Fowler's solution contains 4 grs. arsenious acid to one fluid ounce, or ½ gr. to ʒi. De Valangin's solution contains 1½ grs. to one fluid ounce, or nearly ¼ gr. to ʒi. The smallest fatal dose of arsenious acid on record, according to Taylor, is 2½ grs. In some cases it has been necessary to continue it even when its toxical effects were visible. In certain instances its curative properties were not evident till poisonous symptoms were manifest. In these cases its nervine sedative action has given rise to paresis of the nerve that presides over secretion, and rarely to a numbness in the upper extremities. To avoid any baneful effects following this action, it is well to administer eyery alternate evening a compound rhubarb pill.

Owing to the rapid metamorphosis of tissue in the child, young people are very tolerant of the drug, and many require, before a cure is consummated, as large doses as those given to the adult. Combining the drug freely with water will prevent its producing any stomachic disturbance. Here I shall remark that the manner in which each writer on dermatology discourses on the action of arsenic, besets the remedy with so many precautions that one might suppose he (the writer) had mistaken every conceivable symptom complained of by the patient as due to the remedy. The medicinal and the poisonous dose are so far apart that the nonsense interpolated might be extruded, with benefit to the author's reputation. A medical man sent a lady to me suffering from eczema, who, under his care, was intolerant of one-drop doses, yet from me took five-drop doses of Fowler's solution three times a day with impunity. In some cases, when we have not rightly interpreted the indications for the use of arsenic, we are inclined to think that our patients possess a peculiar idiosyncrasy prohibiting its administration; there may, however, simply exist some modifying condition of the body, rendering the full dose of the remedy inadmissable. In such a case the curative properties of the nervine sedative may be better developed under the influence of small doses. Such a case was the following: I was summoned by a physician to the bedside of a boy suffering severely from corea, to whom five-drop doses of Fowler's solution had been given without any benefit; one drop was then given, and continued every hour. He rapidly recovered; and the lad, whom I found writhing in bed, was subsequently sent by his physician, who lives in this city, to thank me for his cure.

Arsenic and iron, which have the power, when in combination, of increasing the number of red blood-corpuscles and thus equalizing the relative constituents of the blood, may be given with advantage in cases where there is a withered appearance of the skin and loss of areolar tissue. In the cases of pale, flabby, marasmatic young persons, good may accru to them by administering a combination of arsenic, vinum ferri, and cod-liver oil. In cases of inveterate disease, when the skin is dry, inactive, and the leprous scales lie closely, like barnacles, upon the skin, pilocarpine, in small, repeated doses, is a remedy well worthy consideration. When considerable itching is present, accompanied with bright, red, and swollen patches of, psoriasis as large as dollar pieces, and sometimes intermingling with each other, atropine and aconite are more appropriate medicines than arsenic. In such instances, as far back as 1860, I was wont to prescribe five-drop doses of the vinum antimoniale three times a day. Dr. Thomas Hunt, at the Western Dispensary for Skin Diseases in London, long before that time, had been in the habit of giving antimony in such cases with great success. It is wonderful how this medicine fits in where, by reason of the heat, burning and inflammatory condition of the part, arsenic is counter-indicated. It gives rise to a gentle diaphoresis of the system generally, and so has a derivative effect upon the morbid local action. In this manner it may relieve any threatened conjestion of lung tissue.

Atropine is serviceable, as is also aconite, when an indication is present for the administration of arsenic; but where we would withhold the remedy because of the hyperæmic condition of the skin, we also combine belladonna with arsenic; when we would prevent œdema of the skin, ergotine is given in cases where, without any inflammatory action, there is a lax condition of the dermal blood-vessels, as is often the case in elderly persons affected with psoriasis.

In chronic psoriasis, where there is a history of rheumatism, or a dull, gray, dead-looking, persistent condition of the scaly masses, the administration of the potassii iodidum, in doses of ten grains three times a day, is indicated. Dr. King Chambers, in "Restorative Medicine," thinks this remedy does good by restoring the imperfect vitality of the white fibrous tissues in the many diseases where this medicine is given.

I have seen the happiest results follow the use of liquor ammonia acetatis. The acetate of potash, combined with the spiritus ætheris nitrosi, has, after a preliminary course of arsenic, a wonderful effect in causing the detachment of the scales from the convalescent skin.

The local, but no less important, treatment now claims a share of our attention.

A gentleman from Milwaukee, speaking to me of his wife, who has been afflicted since she was four years of age with psoriasis, and who now, at the age of thirty-eight years, is entirely covered with the disease, says: "Not only has she used almost every known external remedy without receiving the slightest benefit, but has taken gallons of Fowler's solution without getting either worse or better." This itinerant medication goes to show the absurdity of using remedies when the object to be attained is not clearly understood or persistently and intelligently pursued.

The application of local remedies as soothing, detergent or stimulating in character, is especially indicated in long-standing cases, where we have reason to believe that the intra-epidermic nerves lying broken among the layers of imbricated scales are incapable of transmitting any impression from the periphery to the nerve centres. In such cases the dilated capillaries are not the result of peripheral or central excitation of nerves, but of their exhaustion or lack of inhibitory power. Arsenic in such cases should give place to diuretics and eliminatives, which, by depleting the system generally, at the same time stimulating the vessels by local means would cause, by absorption of exuded material and exfoliation of scales, the abruption of the limited disorder.

In the use of local remedies suitable to each case the physician has to be wisely discriminative in his selection. It happens, as is well known to those familiar with cutaneous affections, that success depends on the ability of the physician to adapt his varied treatment to the varying condition of the affected part. A medicine valuable to a certain extent in the cure, is utterly worthless if continued when the local disease is arrested in its progress towards resolution and calls for a suitable change in the remedy applied.

In the treatment of general psoriasis by external measures care must be taken in the use of the hot air, the vapor, or the medicated bath, not to cause a too rapid desquamation of the pachydermatous covering. I have seen sad results follow the sudden withdrawal of the protective covering of the hyperæmic skin. To mention one such instance must suffice: Sarah C., aged 57, married, tall in stature, but had lost flesh. Functions of the body normal. Catamenia ceased nine years ago, at which time a scaly eruption gradually disseminated itself over the entire body, covering the head, face and hands, as well as the extremities with dense, white scales. The grey masses cracked at the flexures of the joints into deep fissures and she walked with considerable difficulty and in a slouching, shuffling manner. The administration of arsenic, which had given rise to œdema and also swelling of the abdomen, was followed by diuretics. After the use of glycerine baths, the scales fell off in large masses without leaving the ordinary red inflamed appearance of the skin. Her walk became easier, and while congratulating herself upon this rapid recovery, she was suddenly seized (September 6th) with delirium and fell unconscious to the floor. She subsequently recovered and being cured of the skin disease, walked abroad, but on October 7th, while in the reception room, she again fell to the floor. She, however, after appropriate treatment was permanently restored to health and returned to her home in the country. The use of water dressing, vapor or hot air when limited in its application is excellent treatment, but it is not desirable to have the imbricated scales covering a broad surface of the body fall away suddenly in large masses. This would leave the delicately tinted skin exposed to the stimulating action of the air, as well as the underlying ganglia, which seem to be the real centres of the sense of temperature and pain and which have already been unduly excited by the rough surfaces of the supernatent scales. In this condition, therefore, the nerves are the more likely to transmit to the central nervous system, after exposure to the air (especially if it contains an undue amount of ozone), a morbid impression giving rise to the nervous phenomena already described. Scales may be removed by applying over the affected part of the body wet dressing covered with oil skin, so in like manner the extremities may be packed. The sodden scales may then be readily elevated and removed and suitable remedies applied to the skin. The patches also may be cleansed of scales by rubbing them with a piece of flannel dipped in one of the many detergent washes, as Hebra's spiritus saponis alkalinus, consisting of two parts of soap and one of alcohol, or his preparation consisting of equal parts of pix liquida, alcohol and sapo viridis, which has been named by Anderson saponis viridis cum-pice. It is necessary, however, to bear in mind that tar is quickly absorbed. Its poisonous effects are recognized by the production of headache, vomiting and fever, with dark colored feces and urine. Sometimes it gives rise to the appearance of acne. Besides, its use is also productive of inflammatory action of the skin. Dr. Jno. Kent Spender, of Bath, Eng., insists upon the merest trace of tar being used in any of the preparations where its presence is necessary. At one time in the dreary days gone by I remember a physician saying of a man thus affflicted, that if he could be put in a barrel of tar he would be cured. Indeed the tarry preparations were used without any precautions whatever. The remedies also of use are Vleminckx solution consisting of calcis ʒss, sulphuris sublimati ℥i, aqua ℥x. Boiled down to ℥vi and filtered, and used in some obstinate cases. It may be rubbed with nail or small brushes over the affected part. In the same manner may be used a solution of the sulphuret of calcium. Also the oil of cade, obtained from the juniper, ʒi mixed with ℥i of almond oil, or to ℥i of cerate or to ℥i of eau de cologne. Squire, of London, uses ℥ij of creasote to ℥i of cerate. Duhring recommends ʒi to ʒiv of creasote to ℥i of cerate. I prefer applying the pure carbolic acid with a camel's hair brush. Some writers advise carbolic acid ʒss to ℥i of glycerine. When of the size of a coin, Anderson uses cantharidal blistering fluid. One drachm of ol. cadini with one ounce of cold cream, or one drachm of oil of cadmium to one ounce of cerate. When the disease has to be removed from the face or head the ung. hydrargyri ammoniati or the ung. hydrargyri nitratis or the ung. hydrargyri biniodi, used in France, in the proportion of thirty grains to one ounce of cerate, should be used; the strength of the unguents being reduced as the disease convalesces. Lubricating the affected skin with almond oil or vaseline that gives an alkaline reaction is grateful to the feelings of the patient. Cosmoline, a proprietary preparation made from petroleum, I have seen especially useful in softening the hands when the scales had been removed. Chrysophanic acid, combined with vaseline in the proportion of one drachm of the former to one ounce of the latter, varying the strength to meet the indications, is one of the newly lauded remedies in this disease. Owing, however, to its staining linen, discoloring the adjacent skin of the diseased part upon which it is applied, and giving rise to some irritation it will soon fall into disuse. Salicylic acid, in the proportion of one drachm to two ounces of eau de cologne, is a more cleanly preparation. It is very efficacious when rubbed on the affected part with a sponge in removing the scales from the face. Lotions made of borax, boracic acid, chloride of potash, or alcohol are also useful. Naphthol, derived from naphthaline, one of the many preparations distilled from coal tar, was introduced about six years ago by Kaposi, of Vienna, who thought it contained the curative elements of tar. It is more of a parasiticide than a remedy for psoriasis, yet it is found beneficial when applied to the face or hands. Eighty grains of naphthol may be combined with one ounce of either cerate, alcohol or oil. Pyrogallic acid, introduced by Jarisch, obtains great favor with Dr. Van Harlingen, of Philadelphia, who prescribed it in the proportion of half a drachm to one ounce of cerate. It must be admitted, however, that it has a tendency to stain the skin, which becomes more marked if in the meanwhile alkalies are used. If used continuously over too broad a surface it is liable to produce strangury and tinge the urine with the color of tar. An attempt has recently been made to dispense with greasy applications and bring the local remedy into direct and continuous contact with the diseased tissue. Prof. Pick, of Prague, has introduced medicated gelatine; Dr. Geo. Fox and Sessemann, chysarobin in collodion and Prof. Auspitz, of Vienna, chrysorobin in gutta percha, Mr. Ernst Wilfert, pharmaceutist, of Fourth and Walnut Sts., Cincinnati, has prepared medicated gelatine sticks, containing the salts of chrysarobin. After dissolving a piece of one of these sticks in a cup immersed in hot water, it may be applied with a camel's hair brush as often as deemed necessary. Auspitz dissolves one part of purified gutta percha in ten parts of chloroform and after having removed all the scales from the affected part by the use of hot water and soap, repeats the application every third day, for twelve seances, which usually are sufficient to perfect the cure. While under treatment the skin loses its purplish border and assumes its normal white appearance. Dr. Van Harlingen applied to the face a ten per cent. solution or emulsion of chrysorobin in liquor gutta percha and was pleased with the result. Plaster muslins have been proposed by Unna, who, instead of smearing the glycerine, as Pick does, over the gelatine and chrysorobin, blends the glycerine with the gelatine.

I have used these local preparations but seldom, lest the mind of the patient should be diverted from the importance of internal medication and hopes awakened that cannot be realized. But when both local and general treatment are combined, we are almost justified in saying that in most cutaneous affections, if the patient fail to reach the goal of his desires, it is due to his indifference to the advice given him.

A CASE OF OVARIOTOMY.

By H. R. McClellan, M.D.,
Xenia, O.

Mrs. S., a widow, sixty-four years of age, native of this State, family history negative, sparingly developed, poorly nourished, married late in life, gave birth to one child, this when at the age of forty.

At the time of the operation, patient's nervous system was much depressed and her general condition greatly below par. This was consequent upon the fact that for nearly twenty years she had had the sole care of an invalid husband and helpless child; herself in the mean time having suffered successively from a compound, comminuted, fracture and from pyemia. To which must be added the history of the tumor we are about to describe, which had its beginning fully nine years ago.

When first discovered, this tumor was of very small size, lying wholly in the iliac fossa of the right side, clearly circumscribed and readily movable. Its subsequent history is, in brief, as follows:

During the first seven years its growth was very slow, giving rise to no symptoms or annoyance whatsoever. At the end of this time, however, having increased so much in size, the woman presenting the appearance of being advanced to about the fifth month of pregnancy, she complained of the usual symptoms, namely, dull and dragging pain in the iliac region, especially of the right side, dysuria, rectal disorders, etc., etc.

By the end of the eighth year of its growth it had attained such size as to give the patient the appearance of a woman at the full term of pregnancy. Consequently added to the symptoms above mentioned, there were now devoloped difficulty of respiration and œdema of the lower extremities. So severe indeed were these latter symptoms, that tapping, as a palliative measure, was resorted to August 21st, 1882, at which time forty pounds (a quantity equal to more than half the patient's maximum weight) of a light, straw-colored, limpid fluid was removed. The tumor was at this time determined to be a unilocular cyst of the right ovary, with rather long pedicle and but few, if any, adhesions.

Subsequent tapping was resorted to with results as follows:

February 5th, 1883, twenty-four pounds of fluid were removed.

May 1st, 1883, twenty-seven and a half.

June 24th, 1883, twenty-four.

The character of the fluid removed, remained the same throughout. But the relief attained for the patient was progressively less after each subsequent tapping, and, as will be seen from the above figures, the rapidity of accumulation progressively increased; so much so that at the date of the last tapping, the patient herself had become convinced of the fact that her only chance, not only for recovery, but for life, lay in the early removal of the tumor. And in her determination to take advantage of this one chance, was evinced a degree of fortitude in marked contrast with her broken down and debilitated condition.

July 1st was the day fixed upon for the operation. The patient in the mean time having been put upon an active tonic course of treatment.

Dr. Charles Dunlap, of Springfield, performed the operation, the elder Dunlap and local members of the profession being present.

The operation itself was extremely interesting and instructive. A free incision was made in the median line fully ten inches in length, the peritoneum being cautiously exposed was divided on a grooved director. whereupon the tumor at once presented, and on examination two small points of adhesion were found on its posterior surface. These were easly broken up by the hand of the operator, which allowed the tumor, with its rather long pedicle, to slip through the large opening without the use of the trocar. The pedicle was now made secure by transfixing it with a double ligature of strong silk. It was then divided, the tumor removed, the stump returned within the cavity, and the ends of the ligature withdrawn at the lower angle of the wound.

Next followed what we consider the most important part of the operation, namely, the careful removal of even the minutest particle of foreign matter, the operator leaving not a viscus unturned until satisfied perfectly as to its thorough cleanliness.

The wound was now closed by ten deep interrupted sutures and as many adhesive straps alternating with them. The further dressing consisted in fastening the ends of the ligature to a light roll of linen, applying a piece of soft linen next the wound, upon which was laid a light cotton compress. And finally in passing a many-tailed flannel bandage around the abdomen and fastening it over the compress.

The whole time of the operation, from the time of commencement of the administration of the anæsthetic (which in this case was the A. C. E. compound) till the completion of the dressing, was a little less than thirty minutes. The greater part of this time was consumed by the careful and thorough cleansing of the parts prior to closing the wound, which was the only antiseptic precaution observed throughout the operation.

The after treatment was of the simplest sort. The patient was in need of very little attention till the third day, when the sutures were removed, and the wound found united by first intention, excepting the part immediately about the ligature. The linen next the wound was thereafter removed daily, thus keeping the parts perfectly clean without disturbing the wound, so that practically the original dressing remained throughout.

About the fourteenth day the ligature came away, and healing of the lower angle immediately followed. On the twenty-first day the patient was able to sit up. And at the end of the fourth week was able to walk about, being in need of no further attention.

In the foregoing report, without pretension to detail, our object has been to emphasize what appears to us to be the three important factors in the case, First, the patient was greatly debilitated by long-continued impaired health, yet possessed that wonderful fortitude of mind which has so often, in similar cases, determined a favorable prognosis. Second, the extreme gentleness and perfect cleanliness in the operation itself; and, finally, the value of noninterference in the after treatment.

Before closing it may be of interest to the profession to know that as the result of his work during the year 1883, Dr. A. Dunlap is able to report as follows:

Nineteen cases of ovariotomy, with seventeen recoveries and two deaths; two operations for uterine fibroids, with one recovery and one death.

WHAT IS MEANT BY NERVOUS PROSTRATION?

A Paper read before the Philadelphia County Medical Society, December 19, 1883.

By Roberts Bartholow, M.D., LL.D.
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The popular conception of the condition now known as "nervous prostration" is a state of debility, in which nervous derangements predominate. A man actively engaged in business or in public life, presently finds himself unequal to his daily tasks; he suffers odd sensations in his head: his digestion is disordered; he is weak; wakefulness, mental depression, and a thousand and one new sensations of strange character and fearful portent, are superadded. The unfortunate subject of these ills now recoils from his work, gives himself up to the consideration of his symptoms, and relaxes his hold on the interests and occupations of his life. All the world declares that he has "nervous prostration," and this explanation satisfies. Physicians say "neurasthenia" or "hypochondria," according to their habits of mind or to their training. Sometimes this condition is called the "American Disease." Indeed there is a general notion, widely prevalent, that neurasthenia is a peculiarly American malady. The late Dr. Beard was the apostle of this dispensation, and he not only was noisy and persistent in his advocacy of that view, but claimed, indeed, to have first clearly defined neurasthenia, and to have classified under this designation the numerous symptoms pertaining thereto. If we cannot admit Dr. Beard's claim in its entirety, if we experience repulsion at his tremendous but unconscious egotism, we are still compelled to acknowledge that his work in this connection is the most important that has appeared. He was peculiarly fitted to differentiate this malady by reason of the quickness and acuteness of his intellect, his power of analysis in its subtlest aspects, and his far-reaching, his omnivorous faculty for related facts.

The term *neurasthenia*, advocated by Beard, is by no means of recent origin. The corresponding French word, used in the same sense as we now employ it, has been a stock word of French neurological medicine for fifty years. Under the terms spinal irritation, hysteria, hypochondriasis, the nervous state, etc., symptoms of the the same character as those now included in the word neurasthenia have been described. Besides the general state, similar derangements of functions of particular organs have been separately considered, as palpitation of the heart, headache, flatulence, impotence, etc. In the word neurasthenia—popularly, nervous prostration—the whole morbid complexus is included. The question I have to consider is whether this is a real, a substantive disorder. Are the notions now generally entertained about it founded on a true conception of the conditions?

I need not enlarge on the importance of a correct understanding of a morbid state, which is supposed to be due to the conditions of modern, especially of American, life. Without stopping now to question the soundness of the prevailing doctrine, I will place before you the clinical history of two cases, representatives of the two types of neurasthenia. These may be designated respectively as the *congestive* and the *anæmic* varieties. The latter are greatly more numerous, but the former are not uncommon, as Beard admits.

CASE I.—THE CONGESTIVE TYPE.

Mr. ——, aged 44, president of one of the largest railroad corporations of the West. He is now a robust man, 5 feet 10 inches in height, 196 pounds in weight, and has a very dark complexion, his type of constitution being the so-called bilio-nervo-sanguineous. Beginning his career at an early age in a subordinate position, he has, by the force of a superior intellect and of a physique that no labor could subdue, risen to the highest office, and now controls vast interests. Ambitious, enterprising, resolute, he has carried these faculties into all his work, and has shrunk from no tasks, however severe—from no responsibility, however onerous. As he has risen in position, social engagements have also added to his burdens. His mode of life has changed to some extent. His habits have become more sedentary, although diversified by frequent railroad journeys; the pleasures of the table, including wine-drinking and late suppers, have been more and more indulged in; excessive smoking has been added to these indulgences; and thus, whilst his physical powers have been slowly impaired by bad hygiene, the demands on his mental powers have increased. Extensive interests, uncertain, often precarious, business arrangements, and the incessant watchfulness required when vast combinations may be wrecked through failure at any point, demand the highest use of every faculty; and thus to work is added worry.

Three years ago Mr. —— observed that he was not feeling well, and that he could not work as before. He became dull, especially after meals, had a constant headache, dizziness and throbbing of the temples; he applied his mind with difficulty, and all of the head symptoms were increased by the efforts made; he had a good, rather a keen, appetite; a heavily coated tongue, flatulence, constipation and some colic pains. The bladder was rather irritable, especially at night; sexual inclination had declined with lessened power, and various ill-defined but annoying sensations were felt about the penis, scrotum and perineum. During the first year the symptoms increased; the attacks of vertigo were sometimes very severe, so that he had to support himself for a moment to save him from falling. On several occasions he became very much dazed, even lost consciousness momentarily, and once wandered some distance from the proper route he was taking. Anomalous sensations of creeping and crawling, coldness and tingling, and often a burning heat, were felt in the scalp; sudden detonation in the center of the head apparently; buzzing and singing in the ears, and very constant headache, were also experienced. In the extremities, the tongue, and the genitals, there were felt peculiar tingling, numbness, coldness, creeping, and similar sensations. During the whole time of the existence of his symptoms, Mr. —— suffered from depression of spirits, a deep melancholy in fact, and he lived in constant apprehension of failure of mind.

Physicians whom he consulted in the

West, located the malady in the brain, diagnosticated cerebral hyperæmia, the prelude to softening.

When Mr. —— came to see me, sixteen months ago. the symptoms just detailed continued, and were rather increased than diminished. The objective examination furnished the following details:

His face is full, the eylids puffy, and the lower lid swollen into a bag; the conjunctivæ are injected, the sclerotic muddy, and the pupil sluggish in movement. On ophthalmoscopic examination, the fundus is seen to be injected, small vessels prominent, veins swollen. There is no optical defect, except that due to his age. The membrana tympani is also rather deeply red, and vessels too small to be seen under ordinary circumstances are now in view. Hearing is unaffected. Motility, sensibility—the tactile, pain and temperature senses—are unaffected; and the reflexes remain normal, although probably a little sluggish. The electrical reactions are normal.

His tongue is heavily coated, the breath foul. His appetite is good, but a sense of fulness at the epigastrium persists for several hours after meals; acidity and eructations of rather foul gas now and then occur. The stools have the normal appearance—consistence, color and odor. The urine is copious, acid, specific gravity rather high (1025 to 1030), and there are traces of sugar, as is usual under such circumstances.

The action of the heart is good, the pulse regular, the tension of the vessel rather high. The respiratory movements and murmurs are normal. The area of hepatic dulness is rather enlarged, and the splenic dulness seems, also, to be increased.

Subjectively the following symptoms are experienced; Various strange sensations in the scalp; a persistent headache; blurred vision at times; vertiginous feelings occurring irregularly and of varying severity; despondency, vague apprehensions; fear of places, especially of crowded assemblages; difficulty of deciding questions very trivial or otherwise, in place of former promptness; impaired memory for persons, names and things.

Notwithstanding this extended list of symptoms, Mr. —— did not have an ill look, but, on the contrary, on superficial examination, appeared to be robust. To him and his immediate family the situation seemed in a high degree alarming. The surrender of his position and his businsss interests was regarded as imminent. To the apprehension awakened by his head symptoms was added the diagnosis of cerebral congestion, and hence the profound melancholy into which he was plunged.

Commentary.—My conclusion was that the disturbance in the functions of the brain and nervous system were secondary to derangement of the assimilative processes—of the primary and secondary assimilation—and that to the functional disorder thus caused are added the effects of introspection, and the realization by the centers of conscious impressions to an unusual extent, of ordinary peripheral excitations. My reasons for coming to this conclusion will appear hereafter. The remedies consisted in a careful regulation of the diet, in baths, exercise, in a reduction of the hours devoted to work, but not the cessation of work; in the use of a laxative quantity of sodium phosphate daily, and in the administration of the aqueous extract of ergot, with the chloride of gold and sodium, and a minute quantity of bichloride of mercury. If time and space would allow, the details of the hygienic management—so important in these cases—could very profitably, I think, occupy our attention. But I must pass on to the next case.

CASE 2.—THE ANÆMIC TYPE.

Mr. ——, aged 57; lawyer by profession. His type of somatic constitution is the nervo-sanguine; weight, 145; height, 5 feet 9 inches. He has immense mental energy, extraordinary quickness of perception, a capital logical and critical faculty, and fine oratorical power. These native abilities, conjoined with extensive cultivation, soon placed him amongst the foremost men of the bar of the city where he practiced, and have long maintained him in that position. For many years he has been a dyspeptic, and suffered much from eructations of gas, from acidity and flatulence. At times—months, even years intervening—he has experienced very severe seizures, accompanied by extreme mental depression, alternating with an extreme mental exaltation. During the past five years he has had two attacks of gout, neither severe nor protracted. During the whole course of his professional life he has sustained no reverses, encountered no other anxieties than those of a successful lawyer, and has been rather singularly free, indeed, from the worries of life. Receiving last summer the nomination as a candidate to an important office, this cultivated gentleman, scholar and lawyer, this man of nice tastes and high tone, entered on a canvass marked by vituperation and slander to an unusual extent. About the same time some business interests became entangled and caused no little worry. During the campaign he visited some malarious districts and spoke several times at night in the open air. A speaker of great readiness and power, he never suffered from any considerable fatigue after public speaking, and hence he was now surprised to find himself exceedingly tired after even a brief effort. He began to have drenching night sweats, lost his appetite, grew weak and was compelled to return home. It was then ascertained that he had malarial fever, and was treated accordingly. But at this time, and subsequently, symptoms not necessarily of malarial origin appeared. He became frightfully dyspeptic, had enormous eructations of gas, and very considerable flatulence; his arms and legs had a numb feeling, attended with "pins and needles;" he walked with some difficulty, partly because of weakness; he was somnolent and slept a good deal, and his spirits were extremely depressed, especially on awaking in the morning. During these periods of depression he was so overwhelmed with despondency that he was apprehensive he would lose his self-control entirely.

When he placed himself under my charge, he had still a slight daily paroxysm of fever, the exacerbation occurring in the morning, but this disappeared in a few days under the action of some efficient doses of quinine. He was very weak, pallid, and emaciated, and slept a good deal of the time. He had no headache; his vision was rather dull, and ideas and speech slow. Every morning on awaking he was profoundly melancholic, and all the annoyances which the campaign had developed were gone over in his mind. He could talk of nothing else—think of nothing else than his ill feelings and the disagreeable political and personal slanders of which he had been made the victim. He complained much of the numbness of his hands, of weakness in the limbs; and he talked incessantly of his depressed feelings. The bladder became irritable, and he was compelled to rise every two or three hours during the night, the urine being acid, and depositing heavily of uric acid. Presently the somnolence was displaced by insomnia, and he slept less and less, and rose in the morning haggard, exhausted and horribly nervous and depressed. Ordinary hypnotics proved unequal to the effort to force sleep, and increasing doses of chloral became necessary. His mental activity, heretofore so remarkable, declined, and the effort to force his mind to the performance of any work, such as letter-writing, caused a sensation of fatigue. He also became undecided, even in small matters, ceased to have any inclination to go out and mingle with the public, and grew more and more averse to political movements. He reached a point finally when to meet strangers caused him great distress, excited the circulation, and induced a cold sweat.

As it became indispensable that he should resume the canvass, he made a strong effort, and notwithstanding the fatigue, mental and moral depression and exposure of public speaking, handshaking, and other matters of political expediency, he actually improved somewhat. The insomnia, irritable bladder, and hypochondriasis, however, continued, but to a less degree. In a few weeks, by means chiefly hygenical, I succeeded in stopping the chloral, natural sleep was resumed, although it remained somewhat fitful. Suitable dietetic regulations, baths, exercise and medicines, *pro re nata*, removed, or at least greatly modified, the principal symptoms. Two weeks at Atlantic City accomplished no little good, and when he returned to Philadelphia last week he appeared to be nearly his old self.

Commentary: In this case we have exhibited that complexus of symptoms entitled neurasthenia or nervous prostration in its anæmic form, produced by several factors —moral and somatic. The moral were very influential, but unless the conditions producing bodily depression had occurred, the former causes could hardly have effected such results. Long-standing dyspepsia had prepared the way; malarial intoxication and fatigue contributed an important series of changes, and upon this weakened bodily state were precipitated crushing moral influences.

These cases, whose histories I have just read, are typical—each is the representative of a group. The causes are complex; the effects are not limited to one organ, or set of organs, but involve the system in general. To name this malady from the disturbance in one system seems to me an error, unless the definition is sufficiently elastic to include all the functions affected. Neurasthenia names one, only, of the parts involved. To entitle this the "American Disease" is a strange misnomer. It might, with more propriety, be called the "French Disease;" for a condition known as the "nervous state," as "nervism," as "neurasthenia," and similar terms, has been recognized and frequently described by French writers from an early period in this century. In France have existed the causes in the most influential form. The frequent political convulsions, the exacting social life of the great cities, and the harrassing struggle for existence inseparable from the state of the great mass of the population, induce, if any mere external conditions can, that which is called nervous exhaustion. There are two factors supposed to be especially influential in this country—work, and our exciting political and social life. I believe that the effect of these is greatly overrated.

The brain, of all the organs of the body, illustrates in the most perfect manner that which has been happily styled "the principle of least action;" that is, to execute given tasks, it expends the least possible force, or, to express the same idea in another form, its work is done with ease, with the minimum of effort. Given a certain amount of repose (sleep), and supplied with proper nutriment (healthy blood), the brain will do its allotted work continuously during its working (the waking) hours. So far from being injured by severe labor, carried on under normal conditions, the brain is improved by it. Mental activity, like muscular exercise, keeps the brain in a healthy state. When, therefore, a man says he is suffering from the effects of mental overwork, I want to know what his vices are. Worry may be one of these; worry is exhausting. The worries of life do infinitely more harm than the work of life, how onerous, soever, it may be. The cases I have just read illustrate this.

I deny that life is more exciting on this side of the Atlantic. The one prize of life is money, and to get possession of it is the supreme purpose, to the attainment of which every energy is put forth. Is it less so elsewhere? Who are the people that despise money, and make no effort to obtain it? Here life is less exciting, because our political condition is stable, and but comparatively little exertion is required to secure a comfortable subsistence. I am speaking now of the mass of the population and not of the few consumed by ambition for political and social distinction, or led by a pitiless greed. It is the very ease and luxury of our American life that causes mischief. It is the indulgence in eating and drinking, the abuse of alcohol and tobacco, sexual excesses, sedentary habits, and too luxurious lives generally, that induce the state of the system called nervous exhaustion. If I had time, each of these should be considered in relation to this subject. In the first case I narrated, the pleasures of the table and disordered assimilative functions caused the trouble. In the second case, dyspepsia, malarial toxæmia and unusual fatigue were the pathogenic factors. In both, the effects of these causes were increased by moral influences, in one, the anxieties involved in vast business enterprises; in the other, the excitement of a hot political contest. These moral causes would have had no injurious effect, had not the somatic conditions been unfavorable.

I come now to the most difficult part of my subject. I have to answer this important question: Why are the somatic derangements caused by the conditions referred to, in some cases accompanied by the mental and nervous symptoms which belong to neurasthenia? Why do some subjects with indigestion and assimilative disorders, or with the results of dyspepsia and malaria, suffer from the derangements of the mental and nervous functions, and not others? I might here take refuge behind an accepted generalization, and say that the presence or absence of the neurotic type of constitution explained the difference in the result. There is aptness in this explanation, but it is not entirely adequate. There is a mental condition of great importance, and unless we comprehend this, we fail to realize all the possibilities of the nervous side of these cases. I, however, barely hint at the main points, under these circumstances. Besides, I wish to avoid a too metaphysical discussion of the subject.

In the conduct of life every man who has a position to make or to maintain, exerts a certain moral force to hold himself up to his work. Some men are so happily constituted that they are quite unconscious of the effort and stand in the front, serenely confident. Others are all the time laboring; they feel it and know it, and like the soldiers of Thomas's corps at the battle of Chicamauga, sorely pressed, now and then looked back, to see whether their grim and resolute commander was still behind them with his invincible courage. Men conscious of making the effort to keep up, need but little excuse to surrender themselves to their sensations. At the present time nervous prostration is much feared; its symptomatology is a common subject of discussion; and hence, familiar with its character, a man who is arrested in his career by some of the ailments supposed to belong to it, his imagination readily supplies the rest. When a man begins the study of his bodily sensations, having a certain model in his mind, he has little difficulty in filling out the details. All the world knows that when the attention is strongly fixed on an organ of the body, functional disturbances of it ensue, and finally structural changes may be induced. No part of the body is without sensation, even in health. To perceive these sensations the attention needs to be withdrawn from external things, and concentrated on the part. Thus it is when the subject of neurasthenia pursues the introspection, he becomes conscious of numerous sensations, which, because now felt for the first time, are new. Under these circumstances, also, the seat of conscious impressions becomes more acutely perceptive. Suggestion adds its quota of symptoms.

To the indefinite and multiplying nervous symptoms developing thus subjectively, must be added the reflex. Headache, vertigo, *tinnitus aurium*, amaurosis, diplopia, hallucinations and illusions, defects of speech, paralysis, are reflex symptoms on the part of the brain; palpitation, intermittent pulse, angina pectoris, laryngismus stridulus, asthma, are amongst the reflexes of the respiratory organs and heart; neuralgia, anæsthesia, and other disorders of the sensory nerves, and local paralyses, affections of the motor nerves, included amongst the nerve reflexes, may all be dependent on reflex excitations proceeding from the stomach. Indeed, there is no symptom in Beard's catalogue of those belonging to neurasthenia that may not be due to merely reflex influences having their initial seat in the digestive apparatus. It follows that the term neurasthenia, or its common equivalent, nervous prostration, is either inadequate or it expresses too much. Inadequate if the complex of symptoms includes the functional disturbances of all the organs affected, expresses too much if the malady is merely a nervous one.

In reply to the question: "What is meant by nervous prostration?" I respond, a disease usually functional, situated in one or more organs, during the course of which reflex disturbances of the brain occur, and numerous subjective sensations in all parts of the body are realized by the consciousness."

I deny that neurasthenia is a primary nervous affection, or that it is a substantive disease. I hold that it is symptomatic and secondary.

This conception fixed in the mind, the treatment of neurasthenia is successful or unsuccessful according to the measure of our skill in localizing the initial disturbance and in addressing our remedies to that as well as to the general state.

DISCUSSION.

Dr. Mills, in opening the discussion, by request of the Chair, said: I understand that Dr. Bartholow denies that a disease exists, primarily nervous in origin, which can be called neurasthenia. He classes all cases so-called under two heads, congestive and anæmic, and holds that the symptoms presented are chiefly reflex effects of digestive or other visceral troubles. I have no doubt that many cases are to be thus explained, but we have others in which the cerebral condition is primary. In cases with the symptoms as detailed in the paper, we may perhaps clearly ascribe them to the causes and conditions referred to by Dr. Bartholow, but other cases may be explained in a different manner.

In individuals whose higher ganglionic centres are so constituted, from bad inheritance or poor training, or both, that they cannot bear much strain, when subjected to this strain, these centres exhaust. We have certain functions called organic functions, respiration, vaso-motor action, etc., with centres in medulla oblongata and spinal cord. These functions must be maintained as long as the individual exists. Their centres must be nourished and sustained in a uniform way. Presiding over automatic movements, they must be kept in the highest tone, must have good blood and plenty of it. It is a principle brought out in the paper that local diversion of blood to any one organ or part will take it from other organs or parts; and we may, in accordance with this, have the higher brain diverting blood from the lower, or lower brain from the higher. We have *nervous* symptoms, the result of this overstrain of nerve-centres, and the disturbance of the equilibrium of the circulation, thereby brought about.

I am inclined to differ from Dr. Bartholow, and agree with Dr. Beard as to the propriety of the term "American disease." The social and business exigencies in this country are different, are more taxing than in Europe. In England, for instance, men become mature and enter public life at later periods than here. In France the difference is not so great, but the more absolute division of society into grades and castes prevents too fierce a struggle for high position. Here every man has the chance to rise to the highest position, and men enter especially political life in youth. Americans are not trained for special lines of life-work. They often attempt work too high for their mental powers and break down.

Dr. Tyson: I have many times asked myself the question, "What is nervous prostration?" The answer was always, "It is not a nervous disease, certainly not an organic nervous disease, and probably not a functional one. It is rather a condition of muscular fatigue, and it may be nervous fatigue. Most of the cases are accompanied by digestive derangements, which are responsible for many of the symptoms, most of which are reflex." At the same time, I admit that some of the symptoms are puzzling, and not easily explained. Among these is the pain in the back of the head, often referred to as the result of "nerve tire," and sometimes regarded as an important indication of cerebral disorder, which it is not. In women, uterine derangement is often responsible for the complex symptoms known as nervous prostration.

The point, however, that attracted me in the paper read was allusion to the condition of the urine in one of the cases. It was described as dark brown, of high specific gravity, containing a trace of sugar. I have seen such cases, and think it not unlikely that the apparent sugar reaction is really due to uric acid, which is often abundantly present in these urines of deranged digestion. If we get rid of the excess of uric acid by allowing it to precipitate spontaneously, or precipitate it by the addition of an acid, the sugar reaction with the copper tests does not take place. Other characters of the urine, particularly its dark color and scantiness, are not usual to sugar-containing urine.

Dr. Eskridge: The most important point in the subject is whether the condition called neurasthenia is primarily a nervous disorder, or a disturbance in other parts of the body. I would have been better pleased, if Dr. Mills had elaborated more thoroughly his statements as to the organic functions. He said these functions must be well-nourished, and that failure in them is due to failure in the upper nervous system. I would have liked if he had gone further in his explanation. Is this failure due to disturbance in the brain and upper portion of spinal cord primarily, or to failure in other parts of the body. Those who have paid attention to this subject say that breakdown does not occur unconnected with either worry or vice. I have never seen a case from mental overwork alone. In five cases of neurasthenia of which I have notes, one was from sexual excess; two from worry connected with family troubles; another from alcoholic excess, with sexual vices; and the fifth from sunstroke, followed by oversexual indulgences. In the last case it seemed as if the brain was primarily at fault. It appears to me that nervous prostration, so-called, is a depressed condition of the whole system, the trouble manifesting itself as a general nervous condition secondarily, after organs other than the brain have been primarily affected. The therapeutics also favor this view, because the cases are benefited, not by agents addressed to the nervous system alone, but by hygienic and tonic measures.

Dr. Glasgow: I have come to regard these cases as not nervous in origin, but as largely due to digestive troubles. They are cured by attention to the disordered functions. I have known a short residence in Atlantic City, without any medical treatment, to suffice for a cure.

Dr. Bartholow, in closing the discussion, said: The great question is, is neurasthenia functional, or does it arise from organic change in the nervous system? I maintain that it is largely reflex and frequently from gastric disturbance. Neurasthenia in women is associated with an anæmic condition and ovarian and uterine disorders. They are pale and weak, and if they are subjected to any moral or mental trouble give way, but if they are well nourished sustain any kind of shocks without suffering in health.

In regard to the term "American disease," and to the claim that the peculiar conditions of American life are causative of neurasthenia, it will suffice to say that in some of the European states a higher grade of education is maintained than in this country. In Prussia, for instance, every one is taught to read; education is more general than in Massachusetts. The struggle to maintain existence, and hence the demands on the brain, are severer there than here, and although neurasthenia is said to be uncommon, there are diseases similar to that called nervous exhaustion in this country, arising from similar causes.

Worry has been mentioned as a cause of nervous exhaustion; now, worry hurts a man just in proportion to his condition. If he is in good health, or phlegmatic in temperament, the worry may be well borne, but if he is out of health, worry will have a powerful effect on the nervous system. I do not deny that various causes may produce brain disease, but I deny that the so-called neurasthenia is due to an organic lesion of the nervous system. I maintain that it is part of a morbid complexus; a reflex condition, in large part, of maladies situated in the stomach, the liver, the uterus or other organs.

Society Reports.

ACADEMY OF MEDICINE.

Meeting of Dec. 10, 1883.

W. W. SEELY, M.D., *President, in the Chair.* W. H. WENNING, M.D., *Secretary.*

Typhlitis.

DR. JAS. T. WHITTAKER introduced this subject for discussion with the remark that inflammation of the cæcum and vermiform appendix is in individual cases so obscure, both in the cause and its symptoms, that the disease is frequently not recognized. He was led to make some observations on this affection by a case that recently came under his notice. A young lady, married, was seized with sndden pain in the right iliac region, at the dining table. She was at once confined to bed with the symptoms of peritonitis, from which she died on the fifth day. At the autopsy nothing foreign was found in the abdominal cavity, but death was discovered to have been due to a perforation peritonitis, commencing at the vermiform process.

Typhlitis (from *typhlos*, blind) is, as its name indicates, an inflammation of the cæcum or *blind* pouch of the ascending colon. It is a disease that often escapes recognition, and to Dupuytren, the credit is due of first having described it as a separate affection. Puchet first described an inflammation of the vermiform appendix as a perityphlitis, and Oppolzer first described an inflammation of the connective tissue about cæcum under the name of paratyphlitis. He proposed to distinguish this as an inflammation of the connective tissue, more especially behind the cæcum. Typhlitis is thus limited to an inflammation of the cæcum and vermiform appendix whilst peri and paratyphlitis are processes secondary to it, or may arise independently, as the result of other affections. Matterstock called special attention in the etiology of the disease to the vermiform appendix, and Kraushold recommended the early evacuation of the effusion, a treatment first carried out by Willard Parker, in 1843.

It is a singular feature in this disease that it has a predilection for the male sex. According to Matterstock, three-fourths of all the cases occur in men, the age most predisposing being between 21 and 30 years of age, next most frequent between 11 and 20, with a declining ratio at both extremes of life. It has been observed that the vermiform process is subject to great variation in size, shape and attachment. It is usually a tube the size of a goose quill from three to six inches in length. It is retained in place by a small mesentery, and has a closed end terminating in a blunt point; it is lined with a mucous coat for its entire length. It is considered a relic of a subsidiary stomach found in some of the lower animals, and occurs in the form described above, only in man and in the ape. Investigations have shown some very curious anomalies. Sometimes its direction is exactly opposite to the normal; it may be long or short, curved around the ilium, etc. Sometimes it is altogether absent. It becomes of greatest interest on account of its frequent seat of ulceration in dysentery, typhoid fever, syphilis, etc. The frequent occurrence of ulceration in tuberculosis gives sufficient explanation of the frequency of typhlitis in this disease.

It often becomes, as is well known, a receptacle for inspissated feces, worms and other foreign bodies, on which account pathologists have called it the "death trap." So frequent is this process the seat of disease that Toff claims that every third person shows traces of cicatrization in this organ, an estimate which Kraushold, however, holds too high.

Among the causes of typhlitis constipation is mentioned as a cardinal factor. This is considered so frequent that a special form is designated under the title *typhlitis stercoralis*, which is said to be very common in East Siberia, on account of the constipation arising from the peculiar diet in this country. A sedentary occupation is also said to predispose to this disease. That constipation is not the cause in most cases is evident from the fact that females and the aged, who are most subject to constipation, are almost altogether exempt from it. The true cause is probably a local paresis of the intestine, set up by an intestinal catarrh or the presence of a foreign body. Coprostasis is never so severe in its effects, as alone to lead to typhlitis. The disease may be due to a virus or germ ingested with the food or drink, which lodges at this part. Fecal concretions and not foreign bodies, are, according to Matterstock, the most common causes of perforation. A small foreign body may form the center for the crystallization of feces. A supposed foreign body has proved to be only an intestinal concretion. Hecker and Buhl have found meconium in the new born child a cause of typhlitis.

The post mortem examination shows the ordinary lesions of peritonitis and intestinal inflammation. The peritoneum is swollen and agglutinated to the surrounding structures, the intestinal walls are œdematous. An abscess may form of varying size, sometimes even attaining the size of a man's head. Pus may discharge into the duodenum or other organs, in fact in all different directions. Duddenhausen and Aufrecht observed cases of pylophlebitis as a result of an abscess in this region, whilst older writers have reported cases where the pus discharged through the diaphragm into the pleura, lungs, pericardium, or into the vagina, uterus, etc. Eichhorst lately described an instance where the abscess discharged through the umbilicus. Often lesions about the vermiform appendix set up symptoms quite at a distance from the seat of the disease, as for instance, dropsy, milk leg, etc. This vermiform process may be cut during the progress of the disease, into two or three pieces, and again the point of perforation may have become invisible. Kraushold reports an instance of death from typhlitis where only a dimple on the cæcum indicated the site of the orifice of the vermiform process.

The symptoms of typhlitis or its variations, peri-and paratyphlitis may be either sudden or insidious. In children there are usually certain prodromata as colicky pains, the maintenance of a stooped posture, icterus, and a palpable tumor in the right iliac region. In adults the symptoms are generally in their inception, more tempestuous; a chill followed by fever, a severe pain in the right ilium, vomiting, later singultus, an expression of anxiety, etc., are the most common symptoms. In the beginning, typhlitis simulates the onset of some infectious disease and it is only when the severe pain in the right iliac region is described that the nature of the disease is first made out. Children may sometimes complain of pain in the epigastrium. No tumor may be detected on palpation, but a resistance may be felt by increasing pressure. Sometimes gargling, etc., is felt as in typhoid fever. The tumor is sausage-shaped and in peri- and paratyphlitis is more localized about the head of the colon. There is dullness on percussion, and palpation, or palpatory ausculation, may, though rarely, elicit a friction sound. Then follow the disturbances of digestion: anorexea, vomiting, constant constipation; in short, the whole course of the disease shows the symptoms of intestinal occlusion. The tongue is coated, may be glazed or fissured; fever, though not always present, shows an irregular range. The urine is lessened in quantity of high specific gravity and contains a large amount of indigo. When perforation occurs, collapse sets in with meteorism, and death quickly closes the scene. Not infrequently this accident is the result of an accident, as a blow or a fall, emesis; the slightest agitation, and even immoderate laughter is recorded as having produced this calamity. Paratyphlitis is more insidious, there is less disturbance of the alimentary canal, fullness, and instead of severe pain on pressure there is parasthesia, a feeling of numbness or formication, or in consequence of the pressure on the iliac vein, the so-called milk leg may result. Symptoms of pyemia may set in slowly, terminating in marasmus. Some persons are peculiarly liable to repeated attacks of this affection; thus Eichhorst mentions an instance where a person had five attacks of paratyphlitis in five years.

In cases due to simple impaction of feces the history of the case is different, and the sausage-like tumor is relieved by an operation of the bowels.

With the symptoms as enumerated, pain in the iliac region, the formation of a sausage-like tumor and disturbances of the digestive apparatus, a diagnosis is not difficult, though the distinction between peri and para-typhlitis and typhlitis is not always so easy. Other affections, as cancer, are excluded by the suddeness of the onset, the absence of cachexia, etc., age of the patient, etc. The duration of typhlitis is very variable, it may last for days, months, years, and even for life. According to Matterstock one-half of all the cases succumb in the first three days. An uncomplicated attack may last from 14 to 21 days, but exacerbations or remissions may occur for months and years. The prognosis is most favorable in typhlitis stercoralis, which is not grave, though it not infrequently proves fatal, because not discovered and relieved. Every form of the disease is more fatal in children than in adults; the proportion of deaths being just reversed according to statistics. The mortality in adults is said to be about 30 per cent. while it reaches as high as 70 per cent. in children. A fistula renders the prognosis more grave whilst a perforation means almost certain death, although two instances were mentioned by the speaker where recovery took place after perforation.

Under the opium treatment the mortality has been greatly lessened. Also the early evacuation of pus diminishes the danger of a fatal result.

Predisposed patients should avoid everything that might set up or aggravate an attack of intestinal catarrh, and as soon as any of the symptoms of irritation in the ileocecal region appear the patient ought to be put to bed immediately and absolute rest enjoined. The treatment may be summed up: **Opium in the pre- and aspiration or incision in the post-suppurative stage of typhlitis.**

DISCUSSION.

Dr. Conner said that although the essayist had treated his subject with great completeness there were several points that the speaker would like to have mentioned; they, however, belonged more to perityphlitis and abscess about the appendix vermiformis than inflammation of the cœcum. He recollected three cases of this kind; in the first, a son of the late Dr. Blackman, a calculus plugged up this tube to the extent of one and a half inches; in the second case was found a large abscess outside of the peritoneum; and in the third the appendix was entirely cut across, death occurring from peritonitis. Where an abscess occurs the question as to active interference at once arises, and also when the abscess is to be opened. The speaker was of the opinion that in the majority of instances a space of seven to nine days ought to be allowed to elapse before an incision is made. Thus far, at least, the earlier as well as the later operations have been unfortunate; if we wait about a week we can see what changes have taken place, and this period also permits the individual to get over the primary stage. There is no reason, however, why an accumulation of pus about the head of the cœcum should be allowed to be left any more there than elsewhere. Sometimes imdeed an abscess springs from the neighborhood and it requires some skill to differentiate between it and an affection of the cœcum. The acuteness of the symptoms and the rapid development of the disease indicate the starting point of the trouble, but if afterwards there is no such clear evidence of the beginning of the affection, and it proceeds from bad to worse, the best thing that can be done is to make a free incision in a line from the inguinal canal to the spine of the ilium. An aspiration is generally not sufficient at this time, because if perforating peritonitis sets in death is almost sure, and laparotamy is then justifiable. A free incision of the peritoneum must be made for the evacuation of fluids and a thorough washing out established to relieve the patient. If the peritonitis depends on a perforation of the appendix vermiformis there can be no objection to closing the perforation; no harm can be done by cutting out the ragged edges of the wound, and sewing the two parts together. Some very curious conditions are sometimes found in these parts; the speaker once saw the apex of the appendix tied down to the inferior region of the peritoneum, near the ovary, so that it was impossible to break it up from the ovary.

In conclusion the speaker again called attention to the importance of making an incision, not too soon nor too late when there is an abscess. Aspiration may answer well but not where there is pus in any considerable quantity. If the abscess has once been tapped and there is a re-accumulation, cut at once upon it. The chances of an unsuccessful issue are slight, but if unrelieved necrosis of the expanded wing of the ilium is almost certain if the disease itself is not directly fatal.

Dr. Forchheimer said that to him etiology was most interesting. He reported six or seven cases several years ago and in each instance he was able to trace the cause in a foreign body. He had seen about twelve to fifteen cases of typhlitis in children and in every one of them he had made out the same cause; none of them were due to a coprostasis, or tuberculous disease, or anything of a specific nature. He knew that his experience was different from the statements as given in statistics on this subject. In every case there was vomiting and disturbance of the digestive apparatus and a localized pain in the abdomen which could be traced down to the right iliac region where the foreign body stopped. In several cases the obstructing mass could be dislodged, and in one instance it again lodged in the left side, whence it was after a while expelled as a foreign body. Besides the digestive disturbances, dysenteric symptoms manifested by a discharge of a viscid, glairy mucus, indicating a catarrh of the large intestine, was a peculiarity common nearly to all these cases at the termination of the disease. In one instance the etiology was particularly interesting. This patient was first seen four years ago with an attack of this disease, since which time he had seven repetitions; the cause was obscure until the speaker noticed that this patient was always laid up after dancing. Thinking that the irritation of the abdominal muscles might have something to do with these attacks he forbade dancing and since, the patient had no more trouble.

Dr. Ransohoff narrated an instance where a man had more than twenty attacks of typhlitis. After the first attack a fistula appeared and disappeared again spontaneously, the patient being always left in good health afterwards. The speaker could not account for the cause of this singular phenomenon. The disease seems to be more apt to occur in summer than in winter, owing perhaps to the ingestion of more indigestible food.

He differed with Dr. Conner as to the propriety of performing laparatomy in perforating peritonitis, because as it is shock that kills the patient, an operation could be of no service. Pus was there a considerable length of time and death would occur before the end of the operation. However, if an operation is to be performed where the trouble lies in thc vermiform appendix, the speaker thought this appendage might as well be cut out altogether as to stitch the wound together.

Dr. Conner replied that laparotomy has been already successfully performed for this affection, and what is good surgery in one case is also good surgery in another. Perforation is sure to be fatal and there is no use in letting the trouble go on allowing the abdomen to take up the refuse products.

Dr. Whittaker also advocated opening the peritoneum where there is a suspicion of the existence of a foreign body; nothing is gained by waiting. Perforation is so universally fatal that it has almost become a law to do nothing in the way of treatment except simply for euthanasia. The speaker hoped that the surgeons would extend their operations to other cases of perforation, as for example, from the gall-bladder. He had often seen death from this cause and if he had such a case again he would like to give the patient the forlorn hope offered by the removal of the foreign body. When a fecal accumulation or inflammation from any cause has existed for a long time the objection to an operation holds good, but we must remember that these accidents are mostly sudden and relief to be effective must be immediate. The speaker said if he were a victim of perforation himself, he would entreat his attendants to look for the foreign body or concretion, and to close by suture the wound made by its escape.

Academy of Medicine.—Dr. J. L. Cleveland will report a case of aneurism of the abdominal aorta at the next meeting, Jan. 21st.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, December 11th, 1883.

JOHN MARSHALL, F.R.S., President in the Chair.

High Amputations for Senile Gangrene.

JONATHAN HUTCHINSON, F.R.S., read a paper on the above subject, which began by the statement that the author's chief object was to urge the safety and expediency of amputating in senile gangrene, if the operation were done at a good distance from the disease. In the common form of gangrene of the toes and foot, the lower third of the thigh was the part suggested, and in rare cases in which the hand was affected, the middle of the upper arm. After remarking on the fact that amputations had hitherto generally proved disappointing, owing to the return of the disease, the author urged that this was owing to their having usually been done too low down. The calcification of the arteries, upon which in the main the disease depended, was usually greatest near the periphery, and hence the difficulty as to supply of blood for the nutrition of the flaps. This source of danger was not encountered if the amputation were done sufficiently high. In a series of cases in very old patients, the author had not encountered the recurrence of gangrene excepting in one. In three, the stump had healed well. In a fourth, in which the patient, although not old, was prematurely senile, and the calcification of the arteries extreme, the recovery had also been excellent. In this instance the femoral artery was so rigid, that it stuck out from the face of the stump like a small bone. One of the patients, in whom the stump had healed without a drawback, was 70 years old. In two of the cases, the other foot had been subsequently threatened with gangrene. As to the time to be selected, the author thought that, as soon as the patient was so ill as to be confined to bed, and the disease well established, it was better to do the operation. Spontaneous cure was, he urged, very exceptional, and a great majority of such cases ended in death, after a long period of much suffering. The thinner the patient, the less probable was the risk of the amputation. In a few cases in which the thigh is exceptionally fat and the tissues flabby, it might be wise to hesitate as to recommending it. In all of his cases Lister's precautions had been carefully used, and in two or three the patient had never experienced the slightest pain from the day of the operation.

DISCUSSION.

The PRESIDENT, in returning thanks to Mr. Hutchinson for his paper, expressed his pleasure at learning how greatly modern improvements in the methods of operation had extended the range of disease to which relief could be given, and expressed his confidence in their ultimate general adoption.

MR. RIVINGTON remarked that, in an experience which certainly would hardly deserve to be called extensive, he had never met with any case where there was spontaneous recovery after the gangrene had spread beyond the anterior half of the foot; and he, therefore, welcomed any assistance from amputation. He had himself amputated two or three times; in the last case, the patient was aged between 60 and 70, the gangrene reached above the ankle; he amputated in the lower third of the leg with antiseptic precautions; slight sloughing followed, and the carbolic dressings were discontinued. The sloughs came away, and the stump healed well.

MR. J. W. HULKE had not found Mr. Hutchinson's evidence as conclusive in favor of his practice as he had hoped. The cases which had been brought forward seemed to belong to different categories; one was a case of frost-bite, another of gangrene after a burn, a third of moist gangrene, and only two were cases of pure senile gangrene. As to the recovery of gangrene without operation, he quoted a case in which he had seen recovery after gangrene had spread all over the foot and lower third of the leg as well. He was himself inclined to an expectant and conservative treatment, and could never put aside the maxim that the risk of amputation in the leg increased with every inch of its greater distance from the foot.

MR. BARWELL had only once amputated for senile gangrene, and in that case below the knee; the result, however, had been fortunate. He understood that Mr. Hutchinson's chief reason for recommending high amputation was that he might find the arteries in a less advanced state of degeneration. His case, however, in which the femoral artery had stood out like a piece of bone, seemed to show the small effect that the condition of the main arteries had, compared to the condition of the minor arterioles.

Mr. Croft said that he had never had a case of senile gangrene to operate upon. He was struck with the title of the paper, "Senile Gangrene;" and had expected to hear a list of cases of gangrene in older persons than those to whom Mr. Hutchinson had referred. The great majority of deaths in senile gangrene occurred from blood-poisoning, more or less marked; the object of high amputation was to remove the local cause of this blood-poisoning, with a large margin; and such a principle he thought thoroughly sound. The removal of the dangers from blood-poisoning by the use of antiseptic precautions, he had been glad to notice, was provided for by Mr. Hutchinson, and, he had no doubt, contributed considerably to his success.

Mr. Godlee mentioned the case of a man, aged about 50, who was at present under treatment in University College Hospital. He had been admitted in the summer months with gangrene of several toes of the right foot; no pulsation could be detected in the external iliac or femoral artery on the right side. The gangrene was progressive, and an operation seemed imperative. He performed amputation at the knee, preserving the patella and soft parts around, in the hopes of supplying the stump with blood from the internal iliac artery by the anastomosis round the knee. No vessel was tied in the operation; there was slight oozing afterwards, and a clot formed on the inner side of the stump; antiseptic precautions were used. There was no suppuration or blush about the stump for several weeks, but, finally, the clot suppurated. Owing to the condition of the bone in the stump, a drainage tube had to be inserted, and portions of the dying bone had twice to be cut away. The stump had, at length, almost healed; it was probable, however, that a third piece of the bone would need removal. He agreed that the use of antiseptics was, in these cases, very important, and hoped that it might lead to the possibility of operating nearer to the border of the gangrene than had been possible before they were introduced.

Mr. W. H. Cripps contrasted the comparatively hopeful tone that was now adopted in cases of senile gangrene with that which obtained in a previous generation, as evidenced by the complete hopelessness with which Brodie spoke of any gangrene that had gone beyond the foot. He detailed a case in Mr. Holden's practice, which he had the opportunity of observing in St. Bartholomew's Hospital, where the anterior half of the foot was gangrenous, and in which Mr. Holden amputated in the lowest third of the leg, and the case ended, after slight sloughing, in complete recovery. He was inclined to suggest that low amputation, with antiseptics, should be tried before recourse was had to as high an amputation as Mr. Hutchinson had recommended.

Mr. Savory said that Mr. Hutchinson's suggestions seemed to him to involve very serious risks, especially with such patients as those to whom it was proposed to apply them. He felt afraid that, in the cases which Mr. Hutchinson had brought under notice, there was some danger of being misled by a name, and brought to consider, as instances of one disease, what Mr. Hulke had so very justly pointed out were cases of very different characters. Mr. Hutchinson's proposals had reminded him of M. Larrey's similar advice to amputate boldly in traumatic gangrene, at a time when no one else ventured to interfere. For a time, the proposal was frequently adopted, until Vincent started a reaction by showing all the mischief, as well as good, that might result. In any consideration of gangrene, it should never be forgotten that there were two different categories, in one of which the injury, and, in the other, the constitutional state, was the predominant factor, and it was irrational to treat both alike. So far as the mischief was constitutional, he regarded amputation as unlikely to do good. In cases of injury, before he could amputate, he must feel sure that the operation was less severe than the injury, and, indeed, had a considerable margin of advantage. Such an advantage might often, perhaps, be found in traumatic cases, but very seldom in constitutional cases, where the traumatic origin was so trivial that they were naturally called spontaneous. In Mr. Hutchinson's cases there were many that were not instances of that dry condition which he regarded as characteristic of senile gangrene.

Mr. Jonathan Hutchinson said he would reply first to the criticism that his cases were not all examples of true senile gangrene. With the exception ot the first, which he had adduced simply to prove the advantages of amputation through the thigh over that through the leg, he must submit that they were all of the senile form. All the patients were between sixty and eighty, excepting one; and although, in that case, the patient was only forty-eight, he was prematurely senile, his arteries being calcified in an extreme degree. The difficulties of defining senile gangrene must be admitted by all; the best definition which he could give of it was that which he had ventured in the paper. viz: gangrene due to calcification of arteries. This form of gangrene always presented peculiarities, and was almost always progressive. He could not admit Mr. Savory's description of the type form of senile gangrene as being that in which the limb dried up. In his experience, nine-tenths of the most definite cases of senile gangrene were moist and not dry, while the most typical examples of mummified limbs were in association with other causes; most certainly senile gangrene and dry gangrene were not synonymous terms. Nor could he admit that senile gangrene was always spontaneous, for not unfrequently some slight injury, attended by inflammation, appeared to act as its local and exciting cause. Although we were accustomed to classify gangrene as traumatic and spontaneous, it must never be forgotten that, in almost all cases, both constitutional and local influences had their share. In some cases the one predominated, and in others the other; but it could seldom or never be said that a gangrene was due wholly either to local or to constitutional influences. He was glad that Mr. Savory had so ably reminded them of the important step in surgical practice which was taken when M. Larrey recommended amputation in traumatic gangrene without waiting for a line of demarkation; he also felt indebted to Mr. Croft for suggesting that the present discussion should be widened, so as to include other forms of gangrene than those purely senile. He felt sure that the line of practice which he had endeavored to recommend would be found applicable to a larger class than those referred to in his paper. Having regard to the risks which all forms and conditions of gangrene necessarily entailed, of death from septicæmia when acute, and from pain and exhaustion when chronic, he believed that the rule of practice ought to be to amputate early in all cases, unless it was thought that, by so doing, more of the limb would be sacrificed than was necessary. He could think of no other consideration which would induce him to delay; for, unquestionably, the relief to the patient's pain, and the removal of the danger of blood-poisoning, was most definitely secured by amputation. With anæsthetics, the operation caused no shock; with Esmarch's bandage, there need be no loss of blood; and with Lister's dressings, or an equivalent, the wound ought to heal without fever and without suppuration. In two of the cases which he had narrated, in both of which the arteries were most extensively diseased, in one (the patient being close upon eighty) the healing of the stump had been literally that referred to. In one of them the patient suffered from diabetes and albuminuria at the same time; but he was now alive and well, three years after the amputation of his thigh.

He fully accepted the criticisms of Mr. Savory and Mr. Hulke, that his cases were not sufficiently numerous to warrant the formation of a new rule of practice; certainly we must wait the result of further experience. Since he had written his paper, however, he had succeeded in finding, after much search, an important piece of statistical information. It consisted of a record by Mr. James, of Exeter, of no fewer than five cases of gangrene of the feet in old patients, in which amputation had been performed. In some the amputation had been through the leg, and in others through the thigh; although it would appear that, in nearly all, the stump had been for a time in an unhealthy condition, all five patients had ultimately recovered. In two both limbs had, with an interval, been removed, and in one of these, Mr. James stated, he had himself seen the patient walking about on two wooden legs. These cases were all done before the introduction of antiseptics and of improved methods of dealing with arteries. Mr. Dix, of Hull, had also supplied him with the notes of a case in which he had amputated close below the knee, and the patient had recovered. With regard to the selection of the place of amputation, Mr. Hutchinson said that his own experience would lead him to hold strongly to the opinion expressed in his paper, that the lower third of the thigh was the safest place. He did not believe that the common dictum as to increase of risk as we ascend the limb was true. The lower third of the thigh offered several definite advantages; there was only one bone to cut, and often only a single artery to deal with. The arteries in the upper third of the leg were often more or less difficult to secure, and recurrent hemorrhage was by no means uncommon. He had often seen amputation in the lower third of the thigh heal absolutely by first intention, while he had very seldom indeed witnessed this result in the upper third of the leg. These reasons, added to the yet more weighty one, which had been prominently mentioned in his paper, that the greater the distance from the gangrene the less was it likely to recur in the stump, led him to believe that future experience would demonstrate the superiority of the position recommended. In elderly persons the saving of six inches more or less in the length of the stump, was not a matter of much importance, and it was certainly not worth while, with that object in view, to diminish the probability of rapid painless recovery.—*British Medical Journal.*

PERSISTENT EPISTAXIS.—There are few things more trying to the young doctor (and to the old one too) than a persistent hemorrhage from the nose. As the blood keeps dropping, dropping, dropping, so equally do the physicians spirits. Dr. Guedevo tells us in *L'Independente*, November 15, 1883, that he succeeded in controlling two cases with the following, given in teaspoonful doses every fifteen minutes; after some vomiting, the hemorrhage ceased: Tartrate of antimony and potash, gr. ij; distilled water, f℥iv.; simple syrup, f℥ vj.—*Medical and Surgical Reporter.*

THE NEW YORK POST GRADUATE SCHOOL OF MEDICINE has been so successful that it will move to a new building on or about February 1st, 1884, which will enable it to give hospital advantages to its matriculates. The new building is very large, being five stories high and having a frontage of 95 feet. The new announcement gives a list of 140 physicians who were matriculates for the year ending November 1st, 1883.

AT the next meeting of the Cincinnati Medical Society, Tuesday evening, January 22nd, Dr. B. P. Goode will read a paper on Epilepsy.

THE CINCINNATI
LANCET AND CLINIC
A Weekly Journal of
MEDICINE AND SURGERY,
ISSUED EVERY SATURDAY.

TERMS, $3.50 PER ANNUM IN ADVANCE.

☞All letters and communications should be addressed to, and all checks, drafts, and money orders made payable to
DR. J. C. CULBERTSON,
EDITOR AND PUBLISHER,
281 W. 7th STREET, CINCINNATI, OHIO.

SUBSCRIBERS TO THE LANCET AND CLINIC who have not already remitted their subscription will confer a favor on the publisher by promptly doing so

Cincinnati, January 19, 1884.

The Week.

OHIO STATE SANITARY ASSOCIATION.—The first meeting of the Ohio State Sanitary Association will be held in the Board of Trade Room, City Hall, Columbus, Ohio, February 14 and 15, 1884.

First Session, 10 *A.M.*—*Thursday*, *Feb.* 14.

TEMPORARY ORGANIZATION.

Prayer.—By Rev. W. E. Moore, LL.D., Columbus.

Address of Welcome.—J. F. Baldwin, M.D., Editor of Columbus Medical Journal, Columbus.

Response.—John Simpson, Ph.D., Sup't of Public Schools, Mansfield.

APPOINTMENT OF COMMITTEE ON PERMANENT ORGANIZATION.

Importance of Sanitation.—Wm. Morrow Beach, M.D., London.

Plea for the Organization of a State Board of Health.—C. M. Finch, M.D., President Board of Education, Portsmouth.

Second Session, 1:30 *P.M.*

Drainage and Water Supply.—Prof. E. H. Hyatt, M.D., Delaware.

Sewerage and Water Supply of Youngstown.—John McCurdy, M.D., Youngstown.

The Effects of Sanitation upon the Organs of Vision.—Prof. W. R. Amick, M.D., Cincinnati.

Sanitation of Schools.—Prof. W. C. Conklin, M.D., Dayton.

VOLUNTEER PAPERS.

Third Session, 7:30 *P.M.*

GENERAL DISCUSSION. —*Resolved*, That Legalized State Sanitation has become a Necessity in the State of Ohio for the General Protection of its Citizens. To be opened by Prof. Starling Loving, M.D., Columbus.

N. B.—Members of both Houses of the State Legislature especially invited.

Fourth Session, 9 *A.M.*—*Friday*, *Feb.* 15.

Prayer. — Rev. Washington Gladden, D.D., Columbus.

REPORT OF COMMITTEE ON PERMANENT ORGANIZATION.—ELECTION OF OFFICERS.

Some Reasons for the Establishment of a Board of Health.—Prof. D. N. Kinsman, M.D., Columbus.

Diphtheria. — S. H. Smith, M. D., Warren.

Tobacco from a Sanitary Standpoint.—J. W. Craig, M.D., Mansfield.

Fifth Session, 1:30 *P.M.*

The Excellent Fruits of the State Board of Health Law in West Virginia.—James E. Reeves, M.D., Secretary State Board of Health, Wheeling, W.Va.

Vital Statistics. — Lew Slusser, M.D., Canton.

The New Fashion.—Prof. C. A. Lee Reed, M.D., Hamilton.

What shall be done with the Sewage and Garbage?— Prof. Edwin Orton, LL.D., Ohio State Geologist, Columbus.

VOLUNTEER PAPERS.

Miscellaneous business.

Introduction of officers-elect.

Remarks by retiring Chairman.

Adjournment.

J. F. Baldwin, M.D., Columbus; C. A. Lee Reed, M.D., Hamilton; S. H. Smith, M.D., Warren; E. H. Hyatt, M.D., Delaware; W. W. Jones, M. D., Toledo, *Counseling Committee.*

RAILROADS.

The following railroads will return delegates at *one cent per mile*, upon presentation to their ticket agents at Columbus, of a certificate that they have paid full fare one way, signed by the Secretary of the Association:

Indiana, Bloomington & Western.

Columbus, Hocking Valley & Toledo.

Cleveland, Akron & Columbus.

Scioto Valley.

Cleveland, Columbus, Cincinnati & Indianapolis.

Ohio Central.

The following railroads will sell round trip tickets to all persons who will attend the meeting of the Association, at *two cents per mile*, upon presentation to the local ticket agent of a certificate furnished for that purpose:

Pittsburgh, Cincinnati & St. Louis or C., St. L. & P. R.R.

Baltimore & Ohio.

These certificates will be forwarded on application to R. HARVEY REED, M.D., Acting Secretary, Mansfield, Ohio.

THE CINCINNATI OBSTETRICAL SOCIETY.—The annual election of officers of this Society took place January 10th at the office of Dr. J. Trush. The following officers were elected for the ensuing year:

President—Dr. C. O. Wright.

Vice-President—Dr. W. H. Wenning.

Recording Secretary—Dr. Clara Ellsbury.

Corresponding Secretary—Dr. James G. Hyndman.

Treasurer and Curator—Dr. George E. Jones.

Selections.

MEDICINE.

MOELI ON THE REACTION OF THE PUPIL ON STIMULATION OF THE SENSORY NERVES. It is well known that stimulation of the sensory nerves causes dilation of the pupil. Moeli (*Archiv. f. Psych.* Bd. xiii., p. 692) has almost never failed to obtain this result in women and children, though in some women over fifty the reaction was not so marked as in younger individuals. In men over fifty, ordinary stimulation failed to evoke it in a number of cases, but powerful electric stimuli generally succeeded. Moeli made observations on the condition of reaction in various nervous diseases. In *general paralysis* he found that where the pupils reacted well to the stimulus of light, sensory stimulation failed to produce dilatation of the pupil in 13 per cent. of the men; there was a decided dilatation in 74 per cent. men, and 100 per cent. women. Where the pupils did not react to light, there was no dilatation in 65 per cent. men, and 20 per cent. women; decided dilatation in 10 per cent. men, and 14 per cent. women. In cases of *tabes* with pupils not reacting to light, dilatation was obtained very rarely, and then it was very slight, and obtained only after strong stimulation. It is interesting to note that in male general paralytics with retained patellar reflex the pupil did not react to light in 36 per cent., whereas in paralytics with absent patellar reflex the pupil did not react to light in as many as 83 per cent. The corresponding figures in women were 40 per cent. and 63 per cent. These figures suggest a connection between disease of the posterior cord and the affection of the pupils. In *epilepsy*, the pupils dilated rapidly after even slight sensory stimulation. The dilatation of the pupil in these cases is not due, as Schiff and others have held, to "an actual cerebral sensation," for it is found during sleep, in coma, and in cases of hysteria with hemianæsthesia after stimulation of the anæsthetic side. And the absence of the pupil reaction must not, especially considering its frequency in tabes, be put down to disease of the cerebral cortex, and is too often done in cases of general paralysis.—*Brain.*

A CASE OF POISONING BY TURPETH MINERAL; DEATH. By A. McPhedran, M.B., in the *Medical News*.

I am not aware that any instance of poisoning by yellow sulphate of mercury has been published, or that such a result has ever before occurred from its administration, and deem it, therefore, a duty to report the following case. A medicine that has been so unreservedly commended by so high an authority as Dr. Fordyce Barker, of New York, must be used by many practitioners in both the United States and Canada. Should it occasionally miscarry with even less disastrous results than in the case given below, it is very desirable that such a fact be known to the profession generally, that due caution may be exercised in its administration.

I was consulted in August of last year by a woman for her child, aged five months, on account of a croupy cough which had begun two days before, and was growing worse. There were symptoms occasionally of slight spasms of the larynx, and the mother was apprehensive of "croup." The cough was due to a slight catarrh of the larynx and trachea, with pretty free secretion. The child was healthy and well nourished, though small. Fearing an attack of dyspnœa during the night from spasm of the larynx, it was thought advisable to be prepared to give an emetic, and two powders, three grains each, of turpeth mineral, were ordered, with directions that one should be given as soon as an attack of spasm threatened. The second powder was directed to be given in fifteen minutes if the first failed to produce vomiting. No doubt, however, was entertained of the prompt action of the first powder.

During the night, the mother thought it necessary to make the child vomit, and gave one powder, a little of which was not swallowed, but returned mixed with saliva, so that probably about two grains were taken. A few minutes afterwards, the child seemed greatly distressed, and made fruitless efforts to vomit. The second powder was given in a quarter of an hour, but only increased the suffering without producing emesis.

I was immediately sent for, and on my arrival found the child in great agony. The tongue was slightly whitened, and the throat filled with mucus. Shortly afterward the bowels began to move. The motion was of normal consistence and dark-yellow color; the subsequent ones consisted of white, coagulated mucus and watery fluid, in which, at first, could frequently be seen light, yellow particles, which probably consisted of turpeth mineral. The evacuations were very frequent, and soon became almost continuous. The child could swallow nothing, so that little could be done to give relief. An enema was given, but it returned immediately. After about two hours collapse began to set in. The pain came in paroxysms, during which there were efforts to vomit. The collapse gradually increased and death took place in eleven hours, with signs of slight convulsions.

These symptoms are identical with those due to acute poisoning by the perchloride of mercury. The lemon-yellow color of the powder precludes the possibility of its being other than the yellow sulphate. A short time previously I prescribed this emetic for diphtheritic laryngitis in a child under two years old. The prescription was filled from the same bottle of the medicine as was used to fill the order in the above case. In that case, four and a half grain doses were given, and each dose caused prompt, easy emesis without any perceptible depression following its action. Full doses were ordered in each case, in the expectation that the most prompt action would be obtained without any increase in the depressing effects. I was led to give the preference to turpeth mineral for the infant from observing how perfectly it met all the requirements of an emetic in the case of the child. My friend Dr. Cameron, of this city, has since had similar experience with this medicine. He ordered it for a child, and the first dose not producing emesis, a second was given. This also failed to accomplish the object aimed at, but a severe diarrhœa was produced, which terminated fatally.

PARALYSIS OF INDIVIDUAL FIBRES OF THE RECURRENT LARYNGEAL NERVE.—In Nos. 46-49 of the *Berliner Klinische Wochenschrift* Dr. Felix Semon of St. Thomas's Hospital, has communicated an exhaustive paper on the proclivity of the abductor fibres of the recurrent laryngeal nerve to succumb earlier than the abductor fibres, or even exclusively in all forms of organic disease or injury, central or peripheral, acute or chronic, which concern the motor nerves of the larynx. The general validity of this law he first stated in the *Archives of Laryngology*, July, 1881. In the papers now before us, there are notes of fifty-eight carefully observed cases, with twenty-one necropsies, all of which are in strict accord with the statements Dr. Semon has made. Many of these cases have been under the author's own observation; the remainder have been reported by men of the highest reputation; and so far no well-authenticated case has been brought forward which would invalidate his conclusions. The undoubted occurrence of transitory and varying isolated paralysis of the abductors, which Dr. Semon has always contended, is characteristic of functional disorders of the motor nerves of the larynx in cases of soft lymphatic goitre, is only seemingly contradictory to his teach ing, as these paralyses can be explained on the theory of transitory anæmia of certain regions of the brain. The occurrence of an isolated paralysis of the abductors from central causes can only be understood on the assumption that the nucleus of the spinal accessory nerve consists of strictly differentiated ganglionic cells; and the author points out that the proclivity of the laryngeal abductors to succumb to organic disease is not a pathological curiosity, but, as Ferrier has shown in reference to the abductors and extensors of the body, a part of a general law. In conclusion, the author lays great stress on the diagnostic importance of this proclivity. He shows, practically as well as theoretically, that in pure unilateral paralysis of an abductor, there is no alteration either in voice or respiration; so that unless a laryngoscopic examination is carried out as a matter of routine in all cases of evident or suspected organic disease of the brain, neck, and thorax, an early and sometimes the only symptom may escape notice; and he claims, under these circumstances, for the laryngoscope, the position occupied by the opthalmoscope in the diagnosis of cerebral and renal disease. If, as it would appear from this careful and exhaustive paper, the foregoing statements are unexceptional, there can indeed be no doubt of the extreme importance of this fact in anatomical and physiological, as well as in diagnostic respects.—*British Medical Journal.*

THE RESULTS OE THE COLLECTIVE INVESTIGATION COMMITTEE ON ACUTE RHEUMATISM AND CHOREA.—It is now about eighteen months since the memoranda and cards on acute rheumatism and chorea were issued by the Collective Investigation Committee, and last July preliminary reports on the results of a year's work were published in the *Collective Investigation Record.* The one on chorea, prepared by Dr. Stephen Mackenzie, deals with 128, that on acute rheumatism, by Dr. Mahomed, deals with 208 filled-up cards. Both are full of valuable material, and promise much for the future of the Collective Investigation movement. Such returns, recording as they do the common ailments of the patient, his family history, antecedents, and surroundings, will, when sufficiently numerous, do much to enlarge our conceptions of disease, and will furnish us with abundant suggestions for future lines of investigation. Let us for a moment review some of the details of the first year's work on rheumatism and chorea.

With regard to sex, the decided preponderance of chorea in the female and the slight preponderance of rheumatism in the male are in accordance with other statistics. But below the age of twenty females are oftener affected with acute rheumatism than males, and it is curious to find that between the ages of ten and fifteen, the period at which chorea is most prevalent, there exists the same proportion between the sexes in the two diseases, thus there are 18 cases of acute rheumatism in girls, 6 in boys; 43 cases of chorea in girls, 14 in boys —that is in both rheumatism and chorea. F: M=3: 1. Conclusions cannot, of course, be drawn from such a few cases; but, as we have not been able to find in any text-book on children's diseases a reference to the influence of sex on acute rheumatism at this age, the returns of the Committee are worth remembering.

Other points recorded of chorea are, that it is met with in great excess in the lower classes, most frequently in persons of spare habit, of weak or moderate vigour, and in those whose growth is moderate or rapid; thus the patient was stout in only 16, strong in only 24, and growth was slow in only 17 instances. Of antecedent diseases, anæmia was present in 22.5, scarlatina in 32, and definite rheumatism in 24.22 per cent. of the cases; in three other cases rheumatism is given as the exciting cause; and, in four others, it occurred during or after attacks of chorea, making a percentage of 30 in which the two affections were definitely associated; it should be noted also that rheumatism occurred during the attack in 18 per cent. In other cases, "vague pains" are recorded. Under exciting cause, fright has a percentage of 28, mental overwork of 22; heart disease was present in 27.34 per cent. of the cases. Information with regard to "common ailments" is scanty; the chief-mentioned are various forms of headache, neuralgia, and other nervous derangements; urticaria occurred in three cases, eczema in one, and pityriasis rubra, with a temperature reaching 104° Fahr., in another case; We should like to have seen much more information about the skin in chorea, and we find that there is no question put with regard to it on the chorea card. It is important to note, not only eruptions, but also the condition of the skin as to moisture or dryness, before, during, and after the attack. The bearing of this in relation to the varying states of the skin in rheumatic fever is obvious enough, and we suggest that a suitable inquiry on this point be inserted on the chorea card.

Turning now to the very interesting report on acute rheumatism. Amongst "recent antecedents," exposure to cold and wet is given in nearly 41 per cent. of the cases; in other 14.4 per cent. fatigue also enters as a factor, and in other 9.1 per cent. it is alone registered as an exciting cause. In future reports, we hope to see some precise information with regard to these antecedents. The usual lay explanation, that the patient was exposed to cold and wet, has never yet been thoroughly sifted, and perhaps, now-a-days, we are too apt to give little attention to this explanation, and do not seek to trace a direct connection between the part exposed and the part first affected. We can recall the case of a man who slept in a night-shirt with damp wristbands, and awoke in the morning with his wrists painful and slightly swollen, acute rheumatism ensuing. A remarkable example of a direct connection between rheumatism and cold, is related by Dr. Garden, of Aberdeen. An infant, aged 9 months, was very fond of its bath, and some girls amused themselves by plunging it in cold water; for the next four or five days it was feverish, and cried if the left leg was moved; it was then noticed that the left wrist, knee, and foot, were tender and swollen, and subsequently other joints were affected. Traumatic and other causes were excluded, and there was no family-history of rheumatism.

Tonsillitis is stated to have preceded the rheumatic attack by variable periods in over 25 per cent., and to have been the prevailing minor ailment in 9 per cent. We should be glad to know how often it occurs at the onset, and how often during the course of rheumatism; and, in future observations, a few words as to the appearance of the throat and a reference to the possibility of scarlatinal infection would be valuable. Lasegue (*Archives Generales de Medicine*, 1880) describes two varieties of rheumatic angina, one precursory to acute rheumatism running a typical course, the other occurring often late in the course of an irregular subacute rheumatism; and he considers that, corresponding as they do in time to the two varieties of scarlatinal angina, they afford another proof of the close connection between scarlet fever and rheumatism, and the occasional occurrence of nephritis in the latter. He also adduces, as further evidence of the correlation of the two diseasee; and we may incidentally mention that Leegaard has collected eleven cases of nephritis as complication of rheumatic fever. Boeck, too, has frequently observed acute rheumatism and erythema nodosum occur as sequelæ to attacks of sore-throat, and particularly to angina follicularis.

The common ailments to which the subjects of acute rheumatism are chiefly liable belong, according to this investigation, to the neurotic type, and we find no mention of lumbago, or of other so-called "muscular rheumatism."

No fewer than 33 cases of persistence of the disease in one or more joints, are reported. It is scarcely necessary to insist how very important it is that full details of the further progress of these cases should be forthcoming, knowing, as we do, but little of the suppuration, ankylosis, or disorganization of joints, which occasionally occur as sequelæ to rheumatic fever. Korte (*Berl. Klin. Woch.* 1880), describes six cases of resulting suppuration in one joint, and excision was necessary in four of the cases. Voelkel, Huber, and others, have also recorded examples of this rare sequela. Didier has written a thesis on five cases of spontaneous dislocation following acute rheumatism, probably, he says, due to softening and stretching of the fibrous joint-apparatus, and to muscular contraction. More accurate knowledge of such exceptional cases is needed before we can pretend to fathom the nature of rheumatism. As Mr. Hutchinson remarked lately, in Manchester, "the study of what are called rare diseases is by no means a matter of mere curiosity; we can often far better study the laws of a whole group from a rare and exaggerated example, than we can from dozens of the more common." If, on the one hand, in its occasional development from over-fatigue or shock; in its chronic, and in some of its hyperpyrexial manifestations; and in the occasionally ensuing muscular paralysis and atrophies, and other nervous phenomena, there is much pointing to the nervous origin of rheumatism; on the other hand, in its rare termination in suppurative arthritis, and in its relationship to scarlatina and the puerputal state, we have many suggestions of its affinity to septicæmia or pyæmia.

And this leads us to ask for observations on the joint-affections, other than pyæmic, which sometimes occur in association with the puerperal state. The possibility of a causal relationship existing between pregnancy, parturition, and rheumatism, seems to have received little attention from English writers on midwifery and diseases of women; cases, at least, indistinguishable from true rheumatism have been met with during or after labour, and we must look to those engaged in family practice for more light on such exceptional instances. Potain (*Gaz. des Hop.*, No. 19, 1882) describes three forms of articular disease after labour; the first tends to suppuration, and occurs, as is well known, in the pyæmic variety of puerperal fever; the second, less dangerous, supervenes two or three weeks after a confinement, and is usually uni-articular; there is often much effusion; the disease is persistent, and commonly ends in ankylosis, and thus resembles gonorrhœal rather than ordinary rheumatism; the third form, by its migratory character, and by its frequent cardiac complications, is closely allied to, if not identical with, acute articular rheumatism.

A remarkably interesting case of scarlatina and polyarticular acute rheumatism in a lying-in woman, is related by Dr. Paul Grenser, in the *Archiv fur Gynækologie*, 1880. The labour was natural, and the woman did well till the sixth day, when a scarlatinal rash appeared; there was pyrexia, sore-throat, and albuminuria; desquamation began on the eleventh day; was excessive, and disappeared on the seventeenth day. On the eleventh day, nearly all the joints of the right hand were swollen and painful; on the sixteenth day, the left elbow, left shoulder, and pubic articulations, were affected; on the twenty-second day, the right elbow, and on the twenty-fifth day, the left hip, were attacked. On the nineteenth day, an extensive crop of miliaria rubra appeared on the new skin, and remained for many days. Tison (*These de Paris*, 1876) gives notes of twenty-three cases of rheumatism in pregnancy. He considers that pregnancy predisposes to rheumatism in two ways, first, by influence on the general health; and secondly by the leucorrhœal and other simple (not gonorrhœal) discharges which are so often present at this time. The disease usually occurs towards the middle of pregnancy, is subacute or chronic in character, attacks a few joints, or sometimes only one joint, is prolonged and persistent, and in half the cases terminates in ankylosis, but rarely or never in suppuration.

The results obtained by the Investigation Committee with regard to chorea and acute rheumatism, without considering others equally valuable, convince us that the collective movement merits all our support. Many of the working details are capable of improvement, and we do not like to hear of "a final report on pneumonia;" for the main object of the scheme, we take it, is to collect records of the family history of disease, and this is not attained by the mere filling up of cards on isolated cases of disease. For example, a practitioner has a patient suffering from chorea; he fills up and posts his card to the secretary; during the next twenty years the patient or other members of the family to which he belongs may pass through various minor ailments or more serious illness; the bearing of these on the pathology of chorea may be of great importance; at any rate, they should receive a brief record, and we want a simple yet complete method to enable the busy practitioner to note these facts. The *Life-History Album*, lately issued by the Committee, though thorough enough, is too elaborate to be wholly satisfactory. Possibly an annual post-card or circular letter from the secretaries to each contributor, asking for a brief account of subsequent medical events in the family to which his case belonged, would partly meet the difficulty. We trust the Committee will soon find a simple and practical way, and we must not be accounted too sanguine if we have a vision of a time when every case of illness in the land will find a place in this new medical literature. A large staff of workers would be necessary to deal with such an enormous mass of material; but, if the profession show themselves in earnest, the public will begin to see the importance of the project, and the time, we hope, is not far distant when secretaryships and curatorships to the Collective Investigation Committee will be well-paid Government appointments.—*British Med. Journal.*

SURGERY.

Aphorisms concerning Ligation for Arterial Hemorrhage.—By John B. Roberts, M. D. in the *Polyclinic*.

I have elsewhere expressed an opinion that styptics are practically useless in general surgery, because either needless or inefficient; and that hemorrhage should be controlled by either pressure or ligation. I now desire to formulate the manner of applying ligation to the arrest of arterial bleeding. The five rules which should guide the surgeon are expressed in the following aphoristic sentences:—

I. *In primary hemorrhage do not ligate arteries not actually bleeding, but have the patient carefully watched.*

Reasons for this rule;—

1. It is possible that bleeding has permanently ceased.

2. It is difficult to be sure from which arteries the bleeding came.

3. All manipulations in wounds are to be avoided unless demanded.

Exceptions to this rule:—

1. When a large vessel is plainly seen pulsating in the wound.

2. When the occurrence of even slight secondary hemorrhage would be disastrous, as in very anæmic patients.

3. When the patient must necessarily be away from surgical scrutiny.

II. *In both primary and secondary hemorrhage the ligature should be applied, when practicable, in the wound at the point where the artery bleeds and not above, in the continuity of the vessel.*

Reasons for this rule:—

1. It is frequently impossible to know which artery is injured until the wound is opened.

2. Secondary hemorrhage may occur even after such ligation in continuity from establishment of the collateral circulation. This secondary bleeding may come even from the proximal end of the cut vessel, if a branch of considerable size is given off between the wound and point of ligation.

3. Ligation in continuity makes a second wound and adds the possible complications of this wound to the patient's original dangers.

4. Ligation in continuity remains as a reserve step, still possible if ligation of the wound fails.

Exceptions to this rule:— None.

III. *If the artery is completely severed both ends should be ligated; if it is partly divided or punctured, a ligature should be applied on each side of such wound.*

Reason for this rule:—

The collateral circulation will probably cause secondary hemorrhage from the distal portion of the vessel, unless double ligation is adopted.

Exceptions to this rule.

When the distal end of the artery cannot be found, pressure must be made in its neighborhood.

IV. *If a large artery is wounded near its origin, tie it below the wound, and tie the trunk from which it arises both above and below the point of origin of the branch. If a trunk is wounded near the origin of a large branch tie the trunk with two ligatures in the* *ordinary manner, and apply a third ligature to the branch.*

Reason for this rule:—

The force of a large current of blood near the internal clot may lead to its displacement and cause secondary bleeding when the silk ligature causes ulceration of the external clot, or the catgut or flat ligature has been absorbed.

Exceptions to this rule.

None.

V. *When ligation of the artery in the wound is impracticable, as happens in deep wounds of the pelvis, ligatiou in continuity may be permitted.*

TREATMENT OF EPITHELIAL TUMORS BY ARSENICAL PASTE.—M. GARES (*These de Paris*, 1883) recommends the method employed by Leboulbene. The paste is made as follows: ℞.—Arsenious acid, 1 part; sulphate of mercury, 3 parts; calcined sponge, 6 parts; add water sufficient to make a soft paste. After a little ammonia has been applied to the surface of the tumor, a small quantity of the paste is applied; the quantity to be applied varies according to the dimensions of the tumor. The paste is applied by means of a piece of tinder, and secured. There is generally some pain, but not sufficient to cause serious inconvenience until the second day. After a time varying from four to six days, the tumor becomes detached and falls off, leaving a wound which soon begins to cicatrize. The chief advantage of this paste lies in its elective properties, pursuing the ramifications of an epithelioma in a remarkable manner.—*The Medical News.*

PROGNOSIS OF RESECTION OF THE VAGUS.—A. Vogel(*Centralbl. f. Chir.*) reports three cases of resection of the vagus.

The first case was one of extirpation of carcinomatous glands in the neck, during which one and one-fifth inch of the left internal jugular and two inches of the left vagus were resected. It was rather remarkable that the left recurrent was not affected until nine days after the operation. Up to this time the voice was loud and clear; then total paralysis of the left vocal chord came on. Nogel thinks that there must have been an anastomotic connection between the right vagus and left superior laryngeal.

The second case was one of partial extirpation of the larynx, a portion of internal jugular, three and one-fifth inches of the common carotid, and large pieces of the vagus, sympathetic, and hypoglossal nerves. Death occurred ten hours after the operation, from loss of blood.

The third case was one of lympho-sarcoma of the neck; extirpation with resection of the right vagus, a part of the cervical plexus, section of the sympathetic, ligation of the internal jugular and subclavian veins, and vertebral and subclavian arteries. Death occurred in four days from loss of blood. As far as paralytic accidents are concerned, the operation does not seem to be contra-indicated.—*The Medical News.*

TREATMENT OF FISTULÆ OF STENO'S DUCT.—Dr. Edouard Martin (*Revue de Thérap.*) has recently published a clinical study of this affection, in which he draws the following conclusions:

1. From an etiological point of view, fiistulæ of Steno's duct may be classified almost equally as traumatic fistulæ, and pathological fistulæ following abscess and inflammation.

2. Their treatment varies a great deal according to the indications; it is therefore a grave error to choose any one procedure to the exclusion of all others for a distinct application in these cases.

When the anterior extremity of the canal is permeable, cauterization, aided in some cases by dilatation, may effect a cure. When the anterior extremity is closed, it is necessary either to produce glandular atrophy by compression or by evacuating the saliva externally, a procedure not without inconveniences, though it has given good results in the hands of Louis, Borel, and Julliard, or else to make an artificial duct. For this purpose Martin believes that simple puncture with a large trocar, followed by introduction of a large drain tube left *in situ* for a few days, is sufficient in the majority of cases to insure the permeability of the artificial duct. Should this show a tendency to close up, a canulated sound may be passed, or the duct may be dilated by laminaria. Deguise's method of double puncture, with Béclard's, Gosselin's, Trélot's, or Richelot's modifications, should be reserved for exceptional cases.—*Medical News.*

THE RADICAL CURE OF HYDROCELE.—By John A. Wyeth, M.D., New York, in the *Annals of Anatomy and Surgery:*

The operation of injecting an irritating liquid, such as tincture of iodine, pure or diluted with water, or port wine and water, alcohol, etc., into the sac of a hydrocele which has been previously more or less completely emptied, is, as is well known, highly recommended by most text-books on surgery as efficient and harmless. Nevertheless, fatal results have followed this procedure, and dangerous and extensive sloughing (so easily are the tissues of the scrotum infiltrated) has followed the simple evacuation of the contents of the sac when no injection has been made. Sir Astley Cooper (1) reports two fatal cases after injection; Gross (2) gives another case; still other mention is made of fatal results in "Holmes' Surgery," (3) and I shall report a case further on.

Every surgeon of experience in genito-urinary diseases knows that the scrotal tissues are easily infiltrated. I have seen extensive œdema of the entire scrotum and penis follow a few hours after an exploratory puncture of a hydrocele made with a small-sized hypodermic needle, the fluid oozing out of the puncture in the tunica vaginalis and into the layers of the scrotum. Mr. Davey reports an instance in which extensive sloughing occurred, and even death has resulted from this simple puncture. (4)

The following case I desire to record here: M. S., aged forty-three, Germany, cigar-maker; family history good. Patient says he had syphilis "a good many years ago;" gonorrhœa several times, the last attack three years ago; had sore on penis at the same time; no stricture; no pain. Three months prior to June 27, 1883, he noticed that the scrotum began to swell at the lowest portion on the left side, which continued to increase in size to date before given. The tumor measured six inches long, and had a transverse circumference of about ten inches. Urine contains a trace of pus and albumen, considered to be the *liquor puris*.

On June 27, at the request of a surgical friend, who, being compelled to absent himself from the city, had insisted that I should treat this case by injecting the sac with iodine, I did this operation. The method advised by Van Buren and Keyes was followed: The fluid, measuring about eight ounces, was drawn off with a medium sized aspirator needle, and one-half the quantity of tincture of iodine was thrown in and immediately drawn back into the aspirator. A small quantity, estimated at about one-half an ounce, would not return through the needle, and was allowed to remain in and to trickle out through the trocar wound.

Pallor and other evidences of slight shock followed the operation, which was done at 10 a.m. At 4 p.m. patient had a chill lasting fifteen minutes, followed by delirium and a rapid pulse scarcely perceptible at the wrist. Half an ounce of whisky was given *per orem*. By this time a dark blue spot, insensible to the touch and as large as a silver dollar, had made its appearance on the scrotum, extending to the median raphé. A free incision was now made into the tunica vaginalis through this spot, the cavity was washed out, and the scrotum covered with a poultice. The iodine which was left in was washed out, together with a few small brown clots, which I took to be coagulated hydrocele fluid, stained with iodine. Urine passed six hours after operation was colored with iodine, and the breath had a peculiar odor. Temperature on this day was, at 3:40 p.m., 101°; 4:20 p.m., 102°; 8 p.m., 99.8°; 10 p.m., 99.7°. Quantity of urine in first twenty-four hours, ℥ xv.

June 28. Temperature from 1 to 11 a.m., 99°. At 2 a.m. passed ʒv. dark urine. Slight vomiting, and again at 9 a.m., after taking milk. Cellulitis of scrotum, penis, and contiguous skin of abdomen. 1 p.m., temperature, 101°; 4 p.m., temperature, 102; urine, ℥ ixss. 29. Sloughing; renewed poultices; urine, ℥ ixss. 30. Ditto; urine, ℥ xiv.

July 1. Patient more comfortable; treatment continued; urine, ℥ xiii. 2. Temperature, 99 to 100°; bowels moved. 3. Temperature, 100 to 101°. 4. Patient was seized with a severe diarrhea, followed by eleven evacuations, which greatly prostrated him before they could be checked with quinine, bismuth, and opium; urine, ℥ xv.

July 5. At 6 a.m., while attempting to sit up in bed and lift himself by his hands, he cried out as if in great pain, and fell back instantly dead.

An autopsy was refused.

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1 Van Buren and Keyes. Genito-Urinary Diseases, p. 401.

2 System of Surgery. Vol. ii., p. 815.

3 Holmes' Surgery. Vol. v., p 89-00.

4 Holmes' Surgery. Vol v., p. 89. British Medical Journal, 1857, p. 503.

The cause of death must be left to surmise. I think that uræmia can be excluded, not only from the quantity of urine, which though small was sufficient to wash out the urea, but from the care taken to keep up a regular yet not extreme diaphoresis.

The inflammation was not severe enough to exhaust, since the temperature was not high. The sudden and severe diarrhea, with the extreme prostration which it caused, added to the already bad condition of the man, I think, produced in him fatal heart failure, which the digitalis infusion given at intervals could not overcome.

It is evident that the absorption of the iodine was the entering wedge, which was followed by the other accidents which produced the fatal result.

In the other cases of hydrocele which I have treated, I have always done the open operation—*i.e.*, free incision and stitching the parietal layer of the tunic to the integument at the margin of the wound, at times coiling a small drainage tube into the sac. These have all been cured, notwithstanding that in one case of large double hydrocele several injection operations had previously failed. I have heard of no disasters following this method, and believe it both safer and surer than any other. I sincerely hope that surgeons will practice and recommend to their students, as I do invariably to the Surgical Class of the Polyclinic, the operation by incision, to the exclusion of other operations which I believe are more dangerous.

EUCALYPTUS IN GANGRENE OF THE LUNGS.—Dr. Bonamy (*Le Courrier Méd.*) relates the case of a man, about fifty years of age, who was admitted to hospital suffering from cough, dyspnœa, and fever. A few days after admission the fetid odor of his breath became so extreme that it was necessary to separate him from the other patients. There was dulness in the axillary line on the left side over the middle portion of the lung. At this point there was tubular respiration, and crepitant rales were audible at the end of inspiration. The sputa consisted of a black matter, detached portions of which were swimming in an abundant serous fluid. The cough was incessant, and the odor intolerable. A diagnosis was made of gangrene of the lung of superficial extent. The patient was first put upon a mixture containing carbolic acid, but no improvement following, this was replaced by tincture of eucalyptus. In two days after the last prescription the odor of the breath was much less offensive, and in less than two weeks the patient was cured.—*The Practitioner.*

IODINE, EXTERNALLY AND INTERNALLY IN AMENORRHŒA AND DYSMENORRHŒA.—It is rare, says Chèron, (*Revue de Therap*) that amenorrhœa and dismenorrhœa are not complicated by lumbo-abdominal neuralgia which adds to the painful state of the utero-ovarian apparatus in these affections.

Tincture of iodine freely applied, every two or three days, over the region of the kidneys, acts very much in the same manner as the application of heat, that is to say, it stimulates the centers of vaso-motor innervation of the lumbar portion of the cord, and of the sympathetic, and at the same time tends to relieve the congestion of the genital apparatus. By this congestion the normal uterine flow is interfered with, being retarded or suppressed.

The tincture of iodine alone will suffice when the lumbo-abdominal neuralgia is not internal. If the neuralgia is internal, Chéron employs the morphinated tincture of iodine: Tincture of iodine 30 parts, sulphate of morphia 1 part. Used internally, iodine is, of all the emmenagogues, one of the surest in its action, more particularly in cases of corpulent persons with very white skin, in whom the lymphatic type is predominant. Iodine may also be employed with good effect in the following formula, whatever may be the cause of the menstrual trouble: Tincture of iodine 1½ parts, tincture of aconite .2 parts, syrup of tolu 400 parts. S. Dose, one, two or three teaspoonfuls before each meal, or one spoonful for three days, two for three days, and three for as long a time as may be desired.—*Medical News.*

GELSEMIUM FOR AFTER-PAINS.—After-pains are sometimes exceedingly rebellious, hence our readers will be pleased to learn that Dr. Holt (*N. Y. Med. Journal*, Dec. 8, 1883), has used the fluid extract of gelsemium, in doses of a fraction of a drop, frequently repeated. In the case of a patient in whom opium was not tolerated, and where all other remedies had been tried, the relief from gelsemium was prompt and decided.

MISCELLANY.

Sewage as an Evangelizing Agent.—The *Sanitary Engineer* of New York is responsible for the following amusing mixture: A reporter had to attend two meetings, one for the conversion of the Jews to Christianity, and the other, which followed immediately after, was on the subject of conversion of sewage into lime and cement. In the printer's hands the folios got mixed up, and the report read : "The Chairman, after the meeting had been opened with prayer, explained that the conversion of the Jews was one of the greatest works that could engage the attention of our sanitary authorities. Filtration was the most perfect method that could be adopted for purification, but a filter had its limits. There was a popular notion that the sewage contained a vast amount of wealth, but the sludge must be taken out of it for purposes of irrigation, as it otherwise choked the pores of the land, and they were a wandering race spread over the whole face of the habitable globe. They were denied the inimitable blessings of Christianity, which might be counted by thousands of tons per annum allowed to run to waste, when by a judicious admixture of lime and clay, the benighted Hebrews who sat in darkness might easily be converted into lime and cement for building purpose, and if thus deodorized, after being first dried and burned in a kiln, this ancient race would once more take its proud position among the nations of the world. Subscriptions were earnestly solicited for the purpose, though he (the speaker) disclaimed any idea of making a profit out of the process, and, in conclusion, he urged increased efforts in the good work, showing that, thus deodorized by a very novel process of evangelization in large tanks constructed for the purpose, the grateful Hebrews might flow over the land without injury to vegetation, while the expense of conversion, which was progressing as rapidly as the best friends of Christianity could wish, would be more than repaid by the sale of the phosphate of lime and valuable cement for building purposes."—*Medical Press.*

The retirement of Mr. Carl Schurz a few weeks ago from the editorship of one of the leading journals of New York, on the ground that irreconcilable differences existed between him and his associates with regard to the conflict of the telegraph and railroad men with their employers, has awakened curiosity in no ordinary degree; and hence when he defines his position upon the question at issue, viz: "Corporations, their Employés and the Public," as he does in the *North American Review* for February, he is sure to command an attentive hearing. Senator J. J. Ingalls writes of "John Brown's Place in History," his purpose being to disprove the several counts in the indictment of the hero of Pottawatomie contained in the recent article by the Rev. David ,N. Utter. The question, "Must the Classics Go?" is discussed by Prof. Andrew F. West, of Princeton College, who presents a very forcible argument for the retention ef Greek and Latin in the curriculum of our educational system. "Race Increase in the United States," by Congressman J. Randolph Tucker, makes a very substantial contribution to sociological science.

Finally, an important question in hygiene, "Rival Systems of Heating," is treated by Dr. A. N. Bell and Prof. W. P. Trowbridge, who point out the advantages and disadvantages, from the standpoints of both economy and of health, of the different methods in use for warming houses. Published at 30 Lafayette Place, New York, and for sale by booksellers generally.

A Novel Theory of Voice Training. Dr. Carter Moffat delivered a lecture in the Christian Institute, Glasgow, recently, to a large audience, mainly composed of professional men and musical critics, on voice training by chemical means. Dr. Moffat maintained that the presence of peroxide of hydrogen in the air and dew of Italy had some connection with the beauty of the Italian vocal tone. A series of illustrations by people taken from the audience, who inhaled a chemical compound made to represent Italian air were largely satisfactory—a full, clear, rich, mellow tone being produced by one application. Several gentlemen present gave their favorable opinion of the new idea. Dr. Moffat's own illustrations were quite unique. Taking what was originally a voice of power and resonance but destitute of intonation, he showed by chemical means this could become a tenor of great range, Some twenty notes, ranging from the lower to the higher register, were sung without any effort by the possessor of a voice of this character.—*Medical Press.*

A NEW METHOD OF TOOTH DRAWING.—A small square of India-rubber, pierced with a central hole, is pushed over the tooth until the upper part of the root is reached. The rubber gradually contracts, pulls on the root, and the tooth is finally enucleated without causing any pain. Four or five days complete the operation, while very slight bleeding and slight swelling of the gum are the only inconveniences. This procedure is recommended by a dentist of Geneva.—*Med. and Surg. Reporter.*

FAITH is sometimes personified. as a drenched female clinging to a sea-washed rock; but a better personification would be a bald-headed man buying a bottle of patent hair restorer.

INTERESTING TO DENTISTS. — While a servant girl in Thurso was cleaning a fish an Friday, the 21st ult., she found in its stomach a complete set of false teeth.—*Medical Press.*

Bibliography.

A TREATISE ON BRIGHT'S DISEASE OF THE KIDNEYS: Its Pathology, Diagnosis, and Treatment. With Chapters on the Anatomy of the Kidney, Albuminuria, and the Urinary Secretions. (1)

This is the latest and among the best of the treatises published on the subject of the much-discussed and increasingly interesting question of Bright's disease. It has the great merit of being based upon the personal observations of Dr. Millard during the past twenty-six years. The histological studies and drawings are chiefly his own. In a word, the work is not a mere compilation. This is the author's statement in the preface, and it is borne out in its perusal. Every practitioner is more interested in the personal experience of competent observers than in a mere compilation.

The author considers that all forms of nephritis may be comprised in three varieties: I. croupous; II. catarrhal or interstitial; III. suppurative. The waxy and fatty kidney he regards as being simply intercurrent or subsequent development upon one of the above forms, and not independent of other lesions. Suppurative nephritis he claims to be an extension of inflammatory processes from the urethra, bladder or the pelvis of the kidney; also as a result of acute infectious diseases, embolism, pyæmia, calculous irritation, and bacteria. He does not regard croupous (parenchymatous), catarrhal (interstitial) nephritis as essentially distinct diseases, but as identical, and differing only in the degree in which the connective tissue and epithelia are respectively involved; they always co-exist, and one can not be developed without the other being affected in some degree.

Dr. Millard assumes that the chronic parenchymatous affection is inflammatory, which is not agreed to by all authorities. Thus the author conforms, in his views, to the theory of the unity of Bright's disease, which may be said to be the notion of many Continental physicians; but English pathologists are becoming more favorable to the view of plurality in the forms of this affection; that morbid anatomy, in the language of Charcot, represents not successive stages of a single disease, but distinct anatomical states connected in life with well characterized symptomatic groups.

The physiological anatomy of the kidneys, with all the new views, is clearly discussed, and illustrated by admirable microscopical representations — in fact, every theme in the book is profusely deleniated.

The work is divided into twenty-eight chapters. Among the most notable are those in which are considered the epithelia of the urinary tubes; the significance of the existence or non-existence of albumen in the urine, and the general conditions of its occurrence in health and disease.; tests for albumen; the importance and significancy of casts; general directions for examining the urine for casts and epithelia; nephritis without albumen; nephritis in general; acute and chronic croupous nephritis; acute and chronic catarrhal or interstitial nephritis and their treatment.

We are impressed with the great value of Dr. Millard's treatise, and predict for it a wide demand. The author is the well-known translator of Charcot's excellent book on Bright's disease.

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1. By Henry B. Millard, M.D., A.M. With numerons original illustrations. Mew York: William Wood & Co. 1884.

Original Articles.

THE RECENT EPIDEMIC OF DIPHTHERIA IN MANSFIELD, IN ITS RELATIONS TO SANITARY CONDITIONS AND WATER SUPPLY.

A paper read before the North Central Ohio Medical Society, December 28, 1883.

By MARY J. FINLEY, M. D., Mansfield, O.

The unusual prevalence of diphtheria in this city during the present year, has brought the subject of its relation to sanitary conditions and water supply prominently before the profession. So large a proportion of fatal cases occurred in the first few weeks of the outbreak of the disease, that public attention, eagerly seeking for a reason, was directed to the sanitary surroundings of the families which suffered so severely. In every instance the laity, and, perhaps the physicians also found something to which they were willing to ascribe either the origin of the disease, or at least its malignancy. Reports of these discoveries increased in magnitude with every repetition, and soon the air was full of vague rumors of frightful filth, of cellars little better than cesspools, of tainted wells. People lifted up their hands in horror as they spoke of these dreadful sources of death, while they crowded to the funerals of the victims and sat in the house possibly in the same room, in which some little sufferer had breathed out its last poison laden breath, then went home and took their own children in their arms and thanked God that their cellars were clean, and still the diphtheria spread.

During the summer, with the abatement of the disease, popular excitement subsided, but the deaths of four children occurring in rapid succession in October again created the liveliest apprehension, and again wells, cellars and "fills" occupied a prominent place in the popular imagination.

Under these circumstances, I have ventured to offer to this association, in lieu of the essay which I was appointed to read at the present meeting, the following report of a house to house inquiry into the source of water supply and the sanitary surroundings of households in this city in which fatal cases of diptheria have occurred from January 1st to December 1st, 1883. Believing that however imperfect, a record of observed fact is of more value than anything else which I could present to this society, confessing that it is by no means exhaustive nor even so thorough as it might have been had I more experience in such work; but assuring you that so far as it goes it is careful, accurate, in all in which it claims accuracy, and conscientious.

It is a fair assumption that the houses in which fatal cases have occurred, are those in which, if in any, the disease has been produced, or its malignancy increased or determined, by unsanitary local conditions. The inquiry has been directed to ascertaining such conditions in and about these houses as might tend to the contamination of air, soil, or water. Where well water was used, it has been tested for the presence of organic matter, animal or vegetable, and for those substances which are generally recognized as evidences of contamination by animal waste, either near or remote.

That indefinite compound which we call sewage poison, eludes the chemist's most delicate tests, but there are certain substances, which in the nature of things are so invariably associated with it, that finding the latter we can confidently assert the presence of the former; these are putrefying organic matter, ammonia, nitrites, nitrates, and chlorides. The first of these, when found in the water of wells or springs, indicates that excrementitious matters have found their way into such waters with little if any filtration.

The first step in the return of organic matter to the mineral kingdom results in the formation of ammonia; the oxidation of this substance gives nitrous acid which uniting with the bases of the soil forms the nitrites. Further oxidation produces nitric acid and the nitrates. These substances, therefore, in the order named, give evidence of the near or remote access of the products of animal waste to the water in which they are found.

It is true that a trace of free ammonia may be found in the purest water, but the presence of albuminoid ammonia shows that animal or vegetable matter in a putrescible state is in the water.

Another substance which tells unmistakably of house slops or cesspool drainage is chloride of sodium. All of this harmless salt, of which such enormous quantities are consumed in domestic use, finds its way ultimately to the house drain or cesspool, and wherever the soakage from these finds its way without thorough filtration through the soil, it carries with it the chlorides. A trace of these salts is properly to be found in all natural water, but the presence of more than two or three grains of chlorine per gallon is evidence of sewage contamination.

With a few exceptions the tests have been qualitative only. For organic matter and albuminoid ammonia, permanganate of potash and Nessler's reagent, (iodide of potash, bichloride of mercury and caustic soda), were used. The result of these two tests is recorded as showing presence or absence of organic matter. For ammonia, caustic potash and hydrochloric acid were used; for nitrates, sulphate of iron and sulphuric acid; for nitrites, Price's test, (iodide of potash and starch), and for chlorides, nitrate of silver. The latter was made quantitative when the qualitative analysis showed more than a trace of chlorine.

From Jan. 1st to Dec. 1st, three hundred and twenty-nine cases of diphtheria are reported to me by physicians as occurring in the city. During the same time there were twenty-seven deaths from this disease. A fatality of about 8⅓ per cent.

Besides the cases reported as well marked diphtheria, every physician reported that he had attended an unusually large number of cases of catarrhal sore throat and tonsillitis; many remarking that these were somewhat diphtheritic in character, or showed the "diphtheritic influence."

By months the deaths occurred as follows: 2 in January, 10 in February, none in March, 3 in April, 2 in May, one in June, 2 in July, none in August, 2 in September, 4 in October, 1 in November. Twelve deaths occurred in the first five weeks of the outbreak of the disease.

Deaths occurred in nineteen families. The nineteen houses occupied by these families are widely scattered over the city, and yet to some extent, arranged in groups. Three are situated on S. E. Diamond street, within a distance of about two blocks. Two are on Mulberry street, and two on Walnut street between Fourth and Bloom streets these four are within a block of each other. Two are on Bowman street, directly opposite to each other. The other houses are scattered. Only one of them is on "the flats," the only part of the city which is defective in natural drainage, and the part which being occupied by the poorest and most ignorant part of the population is presumably most defective in general cleanliness.

The first fatal cases occurred in the family of William Knie, No. 17 S. E. Diamond street. Two children, aged respectively three and five years, died here in the last week of January. Three other children had diphtheria and recovered. This is a good large frame house, in a lot two or three feet above the level of the street, grass covered in front, cultivated behind the house. The ravine through which Tan Run flows passes along the back of the lot. Cellar under part of the house, floored with stone, and drained by tile emptying on the street gutter, always dry, now clean. Well water is used from a well in the front yard, about two feet from the house; it is thirty-two feet deep in the clay, walled with stone, the bottom covered with plank boards; never goes dry; after prolonged rains the water sometimes looks a little muddy. Privy on back of the lot, a shallow-boarded vault about 120 feet from the well. Privy on adjoining lot, 80 feet from the well. No sink or drain for kitchen slops. Lot looks clean.

Another family, including three children, live in part of this house. They did not have diphtheria. Used cistern water. Well water shows a faint milky tint, is tasteless, odor offensive in forty-eight hours. Deposits a thick, light-brownish sediment. Contains ammonia, a trace of organic matter, nitrates distinctly present, nitrites a faint trace. Chlorine, seven grains per gallon.

On February 3d a child died in the family of X. Yeager, No. 11 S.E. Diamond street, and on February 9th another child. The third child had a mild sore throat.

This is a fair sized new frame house on the side of the hill sloping down to Tan Run. Its immediate surroundings are clean. Ground on two sides of the house has been filled to the depth of about five feet. Cellar under whole house, back of it is on a level with the surface. It is not drained, but always dry. Now clean and pure. Privy, sixty feet from house, a boarded pit. No sink or drain for slops. Lot neither sodded nor cultivated. A tannery stands on the opposite side of the street. Odors from it said to be very offensive at times.

Another family moved in part of this

house in April and had a case of diphtheria in May which recovered.

Water is obtained from the Knie well.

On February 3d occurred also the first death in the family of John Marshall, 14 Bowman street. This was followed by two more on the 7th and one on the 13th. One of these cases was a young woman aged 18 years. Four other cases, one child and three adults, recovered. This is a good sized new frame house in a large grassy lot in the upper part of the city. An old water course, now utilized as a sewer, comes down past the side of the lot, crosses Bowman street and continues down between the hills of Fourth and Bloom, for a distance of about two blocks, when it crosses Bloom by a culvert under a very deep fill and empties into Toby's Run. This hollow has been filled in where it crosses Bowman street and west of the street to a point a few feet above the Marshall house. The water is conveyed under the fill by a tile drain as far as the street and by a stone culvert under the street; openings from the gutters admit the surface water. This drain has a good fall and always contains water.

The house has a cellar under its central part. The under floor space of the remainder is well ventilated. Cellar is drained by tile emptying into the sewer tile without a trap. It is dry except when the cistern overflows. The latter is under the kitchen and has a wooden overflow pipe, which leaks and allows the water to drain into the cellar, from whence it passes to the sewer. An untrapped sink in the coal house, back of the kitchen, leads by a tile to the sewer. Both well and hydrant water were used. For several weeks before diphtheria invaded the house the only water drawn from the well was a pitcher full every evening by Mr. Marshall for drinking. The children may or may not have used it.

The well is in the front yard about eight feet from the house and ten feet from the tile sewer; it is eighteen feet deep in earth, is walled with stone; the stream comes in about two feet above the bottom, and is not appreciably affected by changes of weather. Privy, about seventy feet from the well, is a walled pit eight feet deep. Water rises in it in wet weather. General appearance of place neat and clean. A year and a half before diphtheria appeared fertilizing "phosphates" were stored on the back of lot for a short time. Front of lot is filled to a depth of two feet. Well water has a slight brownish tint, small brown particles floating through it. Half a dozen water fleas (Daphnia Pulex) in a half-pint bottle. Deposits on standing a pale brownish sediment. Odor of decayed wood after forty-eight hours. Analysis gives a considerable amount of organic matter; free ammonia, a trace; chlorine five grains to the gallon; no nitrates; no nitrites.

February 4th a child died in the family of G. P. Krouse and on the 11th a child in the family of John Krause, one remaining child in each family had the disease and recovered. The houses occupied by these families are 49 and 51 Walnut street, two large new brick houses, built on the same plan, standing near together in a good sized grass covered lot. Cellars under the whole house, not drained, now dry, said to be always so. A sink in the pantry leads by an untrapped pipe to a dry well in the back lot; this is five feet deep, walled with stone. Both families use water from the same well; it is six feet from the house, twenty-one feet deep, eleven feet in the rock and walled with brick and cemented down to the rock. The dry well is about twenty feet distant; one privy is fifty-five feet, the other ninety feet from the well; both shallow, unwalled pits. A stable is about eighty feet from the well. Chickens had been killed and bled on the lot between the well and stable in large numbers. Water clear and bright, odorless and tasteless. Contains ammonia a trace, nitrates a trace, no nitrites, a faint trace of organic matter, chlorine, two and a half grains to the gallon. Two other families, living on either side of these houses, used water from this well. Both have children. No cases of diphtheria occurred in either.

February 27th two children died in the family of Wm. Leutzy, 13 Bowman street. Two other cases recovered. The mother took the disease while nursing the Marshall children. This is a comfortable new frame house, of average size, on the lower side of the street, opposite to the Marshall house described above. The lot is on one side of the hollow of the water course and had to be filled several feet before the foundations of the house was laid. The front is filled to the level of the street, the back is much lower. The filling was with clean earth. The entire lot is covered with grass. The culvert described in connection with the Marshall house opens on the adjoining vacant lot about thirty-five feet from the front of the house. The water runs in a deep gutter through this lot, the front of which has been partly filled and is dry, but the back part has not been filled, is several feet lower than the lots on either side of it and the alley across its lower end, and much of the time is saturated with water. The water of the gutter is conveyed under the alley by a wooden culvert. Cellar under the front of house, basement under back, both drained and always dry; drain opens on surface. A sink on the porch leads by a drain to the surface of the back lot. Privy, a boarded pit, fifty-eight feet from the house. Cistern water is used for all purposes, from a large cistern six feet from the house. It contains a brick "chimney filter." The entire premises look neat and clean.

On April 4th a child of Mr. E. Smith died at No. 42 East Third Street. The remaining child had the disease also. This house is a small old frame structure crowded between two other houses. The back lot is cultivated, it is above the level of the house and does not appear particularly clean. There is a little cellar under the back part of the house, it is undrained and without windows. Water runs into it during heavy rains, but soon passes off as the bottom is not below the street level. Vegetables are not kept in it and it does not appear either damp or dirty, but the entire house has a very ancient and musty odor. It is very poorly lighted. Hydrant water is used. Privy, about seventy feet from the house, is an unwalled earth pit. Two weeks after the death of the child this family left the house and another family (without children) moved in. Three days after coming to the house a young woman took diphtheria and had a severe attack.

The next death occurred April 13th in the family of William Etz, No. 61 N. E. Diamond Street. Two other children had the disease and three escaped infection. This is a large brick house on a hillside near the flats. The immediate surroundings are neat, clean, and good, but the adjoining lot on the upper side is the reverse of all this. Cellar under part of the house; it is drained by pipes leading to street gutter; floor is cemented, but both walls and floor become damp in wet weather. Well water is used. Well is four feet from the house, twenty feet deep and walled with stone. It never goes dry, but becomes a little muddy in wet weather. A privy, stable and pig sty are within fifty feet of the well on the lot above referred to; each of these is a very dirty specimen of its class. No other families use water from the well. Water has a faint milky tint, odor offensive after forty-eight hours, and has a rather unpleasant taste. Analysis shows ammonia distinctly present, organic matter present, nitrates present, nitrites a trace. Chlorine 11¼ grains to the gallon.

April 27th, a child died in the family of William Niman, 40 Mulberry street; no other cases. This was the only child in the family. The house is a good-sized brick, in a neat sodded lot. A sewer empties on the gutter of the opposite side of the street. This is a stone sewer, 24 x 30 inches, having a length of 1,258 feet and a fall of 40 feet in its entire length. It crosses diagonally from Market to Mulberry streets, receiving the storm-water from the upper part of Market street and from part of Third street. Nearly all the houses in its course pour their sewerage into it. There is a cellar under the main part of the house, not drained, but always dry; no drain for kitchen slops. Water is obtained from a well in the cellar of the adjoining house. Depth of well not known; said to be shallow. Cellar is not drained, except by the well; it is always dry. Privy, 80 feet from the house, a walled pit; water rises in it in wet weather. In this house were five cases of diphtheria in May; all recovered. The water is clear and bright, odorless and tasteless. Analysis shows a trace of ammonia, organic matter a faint trace; no nitrates, no nitrites, chlorides in small amount.

May 25th, Dr. H. L. Hall lost a child; the remaining child had the disease also. The Doctor's residence, 41 Mulberry, is a handsome new frame house in a sodded lot. The appearance of the entire premises is exceptionally neat and clean. The cellar is not drained, but has a rock bottom, and is always dry. The sewer above described passes under a corner of the house and opens in front of the adjoining lot. A sink in the kitchen empties into this sewer by a pipe which has an elbow-trap. Hydrant water is used.

May 27th, a child of Sheriff Gates

died at the County Jail, S. E. Diamond street; no other cases; two other children in the family. The jail is a handsome new brick building, erected in 1880, surrounded by an ample yard, well kept. Celler under the entire building; floor cemented under dwelling, ground floor under jail; both are always dry. Pipes from all the water-closets, basins, etc., empty into upright discharge-pipes, which are carried above the roof. The pipes are all trapped before entering these uprights; the latter empty into sewer pipes without traps. The main sewer, a large tile, discharges in Tan Run. It has a length of between 200 and 300 feet, and a fall of over 30 feet in its length. It is said that when the wind comes from the southeast, so as to strike the mouth of the main discharge-pipe, an offensive smell is perceptible over the entire house. There is no water in the pipes on one side of the jail, as it has never been used; the traps on that side are probably dry, and admit gases from the drain when the wind strikes it. Outside the kitchen door is a sink, built up with brick to the level of the door, which is about five feet above the ground; it is one and a half feet square on the inside. At the time diphtheria was in the house it had not been used for a year, and was full of a mass of rotting garbage. The building is admirably ventilated throughout. Hydrant water is used.

June 2d, a child of W. J. Davis died at 91 North Water street; two other cases, both children. This is a little old frame house on the flats. The little yard in front is without grass, and behind is cultivated. There is no cellar under the house. The floors are near the ground, and under space not ventilated. The house is damp generally. Well water is used; well is close beside the porch in front yard. It is twelve feet deep, walled with stone; the bottom rock; is not affected by dry or wet weather. The privy, a shallow pit lined with boards, is about 130 feet from well; water rises in it in wet weather; has been several times removed and the old pit covered. A pig-sty is about 200 feet from the well. A number of other families use water from this well, none of whose members had diphtheria. Water is clear and bright; no unpleasant taste; odor decidedly offensive after standing two days. Ammonia in decided amount; organic matter present; no nitrates, no nitrites. Chlorine, twelve and one-half grains to the gallon.

July 1st, a child died in the family of Peter Miller, 62 South Sugar street; one other child had the disease, and one escaped infection. The house is an old frame structure, which was in course of extensive repairs at the time the child took sick. The cellar is drained into a culvert; was dry all summer; now dry and fairly clean. Back lot cultivated; front, sodded. Well water is used, from a well sixty feet deep, walled with stone, and about fifteen feet from the back of the house. The privy, a shallow-boarded pit, is fifty feet from the well, and a pig-pen about sixty-five feet. Water rises in the privy and stands on the lot during wet weather. While there is no accumulation of filth, there is a lack of cleanliness in the general appearance of things. Two other families use water from the well; no cases of diphtheria in either. The water is bright and clear, tasteless; odor offensive after forty-eight hours. Analysis gives ammonia a trace and organic matter a trace; no nitrates, no nitrites. Chlorine, ten grains per gallon.

July 8th the next death occurred, a child of T. Hunt, McPherson street. This street lies west of the fair ground, and, although in the city limits, is practically in the country. The house is a miserable little old frame building, with rotting floors, standing in a flat, wet field. A sluggish little stream, which goes dry in summer, runs within a few feet of it. The cellar is half full of water, and foul; is never dry. A drain leads from it to an old barrel, from which the water is dipped when it gets full. Well water is used, obtained from a well on another lot at a considerable distance. The surface-surroundings of the well are clean; the lot being higher than those about it The well is fifty feet deep, walled with stone, the bottom, sand, covered with boards. Four other families use water from it; none of them had diphtheria. The water is clear, bright, tasteless, and odorless. Contains no ammonia, no organic matter, no nitrates, no nitrites, no chlorides.

September 23d the next death occurred, that of a man, aet. 46 years., S. L. Baker, corner of Mulbery and Second streets. This was the first case in the house; there were three other cases of sore throat subsequently. The house is a large, frame cottage, in a sodded lot; the general surroundings clean and bright. Cellar under entire house; is divided in two parts by a wall. The west cellar is drained to the street-gutter, and the floor cemented. The other is neither drained nor cemented, and is always damp. When the cistern is full there is often standing-water in it, as the over-flow pipe of the cistern leaks. The windows and outside door were kept open all summer. The bedroom is over this cellar. Hydrant water is used.

September 17th, a child died in the family of D. Demig, 15 Cemetery street; one other child had the disease and one escaped infection. The house is a small, neat frame building, standing on a bank four or five feet above the level of the street. Lot is sodded in front, cultivated behind the house. There is a cellar under the front of the house, not drained, but always dry. One of the purest and neatest of cellars. Well water is used, from a well on an adjoining lot. The well is sixty feet deep in the clay and walled with stone. In very wet weather water becomes a little muddy. The well is eight feet from the house, and about seventy-five feet from a privy and pig-sty. The general surface-surroundings are not above suspicion. One other family, including six children, uses the water; had no diphtheria. The water is clear and sparkling, tasteless and odorless. Contains ammonia a faint trace, no organic matter, nitrates, a trace, no nitrites, no chlorides.

October 1st, a child died in the family of P. Traxler, 15 Daisy street. The two other children had the disease. This house is a small new frame, in a rather new neighborhood, the general appearance of which is neat and clean. Front of lot is sodded, back cultivated. Cellar under part of the house; it is drained to the alley back of lot; is always dry. During the summer, all the garbage from the adjoining house, not more than 12 feet distant, was thrown in a depression between the two houses and became very offensive. Well water is used from a well two lots distant. Well is said to be deep, walled with stone. It is 8 feet from the house, and about 75 feet from a privy. Immediate surface surroundings clean. Two other families, one including children, use this well; they had no diphtheria. Water has a faint, milky tint, is tasteless and odorless. Contains, ammonia a slight trace, no organic matter, nitrates a trace, no nitrites, chlorides a trace.

October 24th, one child of C. Cronaberger died, and on November 2d the remaining child. No other cases. This house, 9 W. Market street, is one of a row of old frame buildings, crowded on Market, just west of the business blocks that front on Main street. It is in the oldest part of the city. There is no yard in front and only a few feet space behind the house. Cellar, under front of house, is drained without traps, into an old well under the back porch. This well has been long unused, is 70 feet deep. The cellar is always wet; water constantly trickles through the wall, and rises in one corner of the floor. An old cistern, long unused and always full of water, is under the kitchen. It has a very offensive smell. A long privy with five compartments stands parallel with the kitchen and about 18 feet from it on the north side, and on the east are two more about 9 feet from it; near these is an old pit which was covered a few years ago, and another old cistern full of stagnant water. Slops are thrown into an open drain which leads to the street gutter. Hydrant water is used.

October 25, one child of M. McDermott died, and on the 27th another died. Two other children had the disease. This house is on the Spring Mill road, north of the fair ground. It is a large frame house, standing in a large grassy lawn, in a location which appears a very desirable one. Cellar, under part of the house, is not drained, and often contains water which appears to leak from the cistern, when the latter is full. It is now damp. Well water is used for drinking; cistern water for cooking. Cistern is close beside the house. Water is said to come into it from the bottom. The well is on a neighboring lot. It is 18 feet deep, 8 feet in the rock, and is walled with stone. It is four feet from the edge of a barn yard, and 150 feet from a privy. Two other families used this water; both had diphtheria. Cistern water has a slight brownish tint. Contains, ammonia a trace, no organic matter, no nitrates, no nitrites, no chlorides. Well water is clear, bright and tasteless. Has an unpleasant odor after standing two days. Contains ammonia, organic matter, nitrites a trace, nitrates a trace. Chlorine 3¾ grs. per gallon.

I hope I have now given you as clear an idea of the sanitary conditions existing in and around these houses as the limits of this paper will allow. It is a fact worthy of note that but three of these families belong to the very poor; all others are well housed, well fed, well clothed; while the larger number of them are people in very comfortable circumstances, who are surrounded, not only by the necessaries of life, but by its comforts and luxuries. All of the houses except three are on the hillsides.

The same set of inquiries were made in each case. Where no sinks or drains are mentioned, kitchen slops are thrown on the lot. When not otherwise stated, wells are said to be not visibly affected by changes in surface moisture. I saw nowhere any accumulation of garbage. In many instances this is carried away as feed for pigs. Some families keep chickens, which serve them as scavengers.

Six of these places may be pronounced in fairly good sanitary condition. Five of them are undoubtedly bad, and the remaining eight are suspicious.

Eleven families use well water only. Two use both well and hydrant water. Five use hydrant water only, and one uses cistern water only. The proportion using well water is about the same as that in the city at large.

According to the sanitary tests used, and to a microscopic examination not herein reported, the water of three wells is good, of six bad, and of the remaining two suspicious. In every case except, perhaps, one, the conditions favoring contamination were present.

Of the six families with good sanitary surroundings, all used well water; one from a well classed good, three from wells classed bad, and two from a well classed suspicious. From nine of these wells other families than those having deaths from diphtheria obtained water; in every instance there were children among them; in six instances no cases occurred in these families; in three instances diphtheria occurred in all families using the well. Of these three wells, two are bad and one suspicious.

For the sanitary condition of the city at large, nature has done a great deal, art very little. Mansfield, situated on the divide between the waters of Lake Erie and the Ohio River, has an altitude of about 600 feet above the level of the lake. It has an area of 2,200 acres, and a population of 11,000. The general surface inclination, which is from south to north and from west to east, is broken by numerous hollows and ravines, affording admirable surface drainage. Tan Run flows, in a deep ravine, almost through the heart of the city, and Tobey Run through a hollow north of the central part. Both streams empty into the Rocky Fork, which crosses the northeast corner of the city. The top of South Hill, at the southern limit of the city, is 290 feet above the bed of the Rocky Fork; and Market street, near the western limit, is 265 feet above the same level. The storm water rushes swiftly down these hills, cleansing streets and alleys as it goes.

The soil rests upon drift clays. It contains a large quantity of lime. Fragments of limestone and debris of silicious rocks are largely mingled with the drift, rendering it freely pervious to water. The underlying rock, which is the waverly sandstone, is seamed and fissured in every direction. While this condition is favorable to natural drainage and secures us from soil saturation, it is not favorable to the purity of underground streams. There is a possibility that vaults and wells, at considerable distances from each other, and in any direction as regards surface conformation, may have free communication.

One of the great sanitary advantages of this city, which must preserve it for many years to come from soil pollution, even with the present system of earth pit privies, is that excellent thing, space. Lots are usually 180 feet deep and 60 feet wide. Except on the business streets, which are compactly built, every house has in front its grass plat, from the ample lawn to the modest yard, and behind is plenty of room for out-buildings, and for croquet ground or kitchen garden, as taste or means of dwellers may elect. There is no crowding. Everywhere there is ample space for those great sanitarians, pure air and bright sunshine, and for that best of disinfectants, clean earth.

The city is abundantly supplied with fine pure water drawn from two springs, one a mile, the other half a mile from the city. The works are capable of supplying daily 190 gallons per capita. In spite of this copious supply of water above suspicion, two-thirds of the people still cling to the use of well water. Less than 700 families are supplied with hydrants. There is no system of sewerage, a defect which is likely soon to be remedied. Then sewer gas will give us a ready excuse for all cases of disease which resist our skill.

Diphtheria is no new visitant in Mansfield. For the following facts in regard to its history here, I am indebted to our honored townsman, the venerable Dr. Wm. Bushnell. The Doctor came here in 1828, when this was on paper a city and on the ground a village, with houses few and far between, and a population of 720. In that year diphtheria made its first appearance. There were only a few cases. The Doctors had never seen anything like it, and did not know what to call it. Dr. Bushnell recognized it as the disease which had been called cankered sore throat, or canker rash, by the New England doctors when he was a boy. In 1831 it became very prevalent and very malignant. Hundreds of cases occurred in Mansfield and the surrounding country. About one-third of those attacked died. Dr. Bushnell himself lost two children, and Dr. Miller one. Many of the cases showed more or less rash; this was less frequently seen in the dark than in the fair. Some had the ulcerated throat without the rash, others the rash without the ulcerated throat, and others the two together.

In 1833 the same disease appeared in a malignant form along the Black Fork, and followed both banks of that stream. In 1840 it was again very prevalent and malignant in and about Mansfield.

Since that time Richland County has scarcely ever been entirely free from it. Sometimes it is in one town or neighborhood, sometimes in another, appearing in greater prevalence and with more malignancy every few years. It has seemed to cling to no particular localities, but visits alike the tops of the ridges and the borders of the streams. It has shown no social preferences but has invaded alike the homes of the rich and of the poor, of the dwellers in the country and the denizens of the town.

After a full consideration of all the facts which I have been able to gather, I can only arrive at the conclusion that neither sanitary conditions nor water supply, either originated the present outbreak of diphtheria in this city, contributed to its spread, or increased its virulence. Except in so far as the cold, moist atmosphere from damp cellars conduces to catarrhal affections of the respiratory mucous membrane rendering it weaker to resist the special contagion of diphtheria, and in so far as the general deterioration of vital processes induced by any impurity of air or water, renders the system less able to throw off the poison of disease, and less able to maintain its integrity until the disease shall have spent its force.

While the present report shows that there may be some connection between the malignancy of diphtheria and bad sanitation and impure water, yet the very multiplicity of the presumed unsanitary conditions precludes the possibility of ascribing a specific influence to any one of them. Well water, sewer gas, damp cellars, foul soil, rotting garbage, and filled lots appear to have exerted an equal influence. Are we to suppose that the special poison of diphtheria is engendered by or finds its favorite nidus in each of these? Yet to each of them has been ascribed with as much justice the causation of various other diseases, typhoid, scarlet, and yellow fevers, dysentery, cholera, erysipelas. Must we believe that each of them possesses some half dozen different poisons, each of which is at some time, for some unexplained reason, in the ascendant? Or shall we not rather believe that given, the specific cause producing any epidemic disease, all factors which tend to a lowering of the standard of health render the individual more liable to succumb to its influence and less able to endure its effects.

A careful study of a number of reports on diphtheria in different parts of the United States and in other countries, has convinced me that epidemic diphtheria occurs with almost equal malignancy under the best and the worst sanitary conditions. The most desirable hygienic surroundings, and the most irreproachable water supply afford no security against its attack.

It had been my intention to quote from these reports and give full reference to them; but this paper has already exceeded its proper length, and, with this hasty and incomplete summing up, I must leave the subject in your hands.

M. Charcot has been elected Member of the Academie des Sciences, in the Surgical and Medical Section, by 416 votes, against 46 given to M. Sappey.

Dr. Philip Leidy recommends oil of citronella (two drops to the drachm) to disguise the odor of iodoform.

ERGOTININE.

By H. WILFERT, M.D., Cincinnati, O.

Since the publication of the chemical analysis of Ergot, by Wiggers, in 1831, where the first mention was made of ergotine as being the active principle of ergot, various extracts and active ingredients have been obtained, all said to be the chief active constituent of the drug.

The Ergotinine of Wiggers has not been accepted as the alkaloid of ergot, because it consists of complex extractive, matter, of a reddish brown color, insoluble in water and ether, and contains neither sclerotic acid (soluble in water) nor ergotine (soluble in ether).

Bonzean obtained a product to which he also has given the name Ergotine. It, however, has been shown to be nothing more than a mixed extract of the drug. The egotine of Bonzean is of a reddish brown color, soluble in water and about 60 per cent. alcohol. Wenzell, in 1864, discovered in ergot two alkaloids. Ergotine and ecbolline, possessing very powerful hæmastatic properties. Wenzell's ergotine is of the consistency of a thick syrup, and of a brownish black color, soluble in water and in alcohol, but insoluble in ether.

These three products differ as to their chemical composition and physiological action.

Tanret, who has as far back as 1875 discovered an alkaloid in ergot has, of late, again brought it to the notice of the medical profession. The ergotine of Tanret seems to be a new alkaloid. Ergotinine, as the discoverer prefers to call it, in order, as he says, that it may not be confounded with the various ergotines already in the market, crystalizes in fine white prismatic needles, which colors rapidly under the action of light and air, especially when in solution. It is insoluble in water, but soluble in alcohol, ether and chloroform. Salts formed with mineral acids are not as soluble as those formed with organic acids. Both a syrup and a solution of ergotinine is prepared by Tanret. The first is indicated when ergot is to be given by the mouth; the second, hypodermic injection. The strength of the syrup is one milligramme of ergotine to the tablespoonful of simple syrup, 20 drops of the solution represent the same amount. Most of the solutions of ergot and ergotine do not keep for a long time without causing a precipitate, this may be said of ergotine. Tanret recommends to hermetically seal the bottle, and to keep it protected from light; and should a precipitate form, to filter the solution before using it.

Ergotine has been used in all cases where ergot was indicated and has been recommended very highly as a true and reliable hæmostatic. Dujardin-Beaumetz gives the dose of Tanret's crystallized ergotine for hypodermic use as five milligrammes (7-100 gram).

Society Reports.

ACADEMY OF MEDICINE.

Meeting of Dec. 17, 1883.

WM. JUDKINS, M.D., *Vice-President, in the Chair* W. H. WENNING, M.D., *Secretary.*

Typhoid Fever.

DR. F. FORCHHEIMER remarked that the present prevalence of typhoid fever, which almost approaches that of an epidemic, led him to make a few observations on this disease, especially as it presents some unusual features, chief among which is an uncommon severity among children.

A boy, about four years of age, was at first attacked with the usual symptoms: malaise, pain in the stomach and head, epistaxis, fever, moderate constipation, coated tongue, etc. For four or five days the fever gradually increased until it reached a maximum of 104° Fah. in the evening. In the second week the fever took the ordinary course of a continued remittent character, but with it was associated a singular symptom of unusual rarity, namely, in connection with cough there developed a hoarseness which deepened more and more until total aphonia set in. With this complete loss of speech the patient also became delirious, a fact which would have led to some difficulty in diagnosis, if the previous observations had not been made. It was too difficult to examine the boy with the laryngoscope; he was very restless, tossing his head about the bed in all directions, and this restlessness increased when the larynx was touched. A diagnosis of perichondritis laryngea was made; however, more from the knowledge of the symptoms described as belonging to this affection, than from an actual examination in this case. This aphonia persisted for five or six days, the fever gradually subsided, and with the disappearance of the latter, speech suddenly returned. In the fourth week the pulse became full, regular and slow, but the restlessness became again manifest, the child again tossed about in bed, and the pupils showed a peculiar play, that is, they reacted to light, became contracted, but this contraction was not lasting; it disappeared shortly. The spots on the skin so characteristically described by Trousseau appeared, and the case was thought to be one of meningitis, depending on some degenerative process in the brain. The temperture again began to rise and reached a maximum of 105° Fah. in the rectum, and remained thus for four days. It then began to fall, consciousness returned; and now, in the fifth week, the patient is perfectly restored. The temperature was not very high in the beginning, but the speaker took the opportunity of testing the new antipyretic lately recommended: *kairin*. He gave it, however, in small doses (one-quarter gram every hour) and, he must confess, with a very good result; a reduction of temperature occurred so promptly as he never witnessed before. The only objection to its use was the great collapse that followed its administration, which was also greater than he ever saw before. He observed that a profuse, clammy sweat set in, the pulse became very weak, and the patient vomited once or twice. For this reason he gave the kairin for two or three days only. For the perichondritis, Dr. Tauber, who had been requested also to see the case, ordered inhalations of steam and cold applications to the throat. The meningitis was controlled with the internal use of bromide of potassium and small doses of opium, under which treatment the patient continually improved unto complete restoration.

The speaker added that typhoid fever is commonly regarded as a rare affection in young children, but during the present time he witnessed a large number of cases with all the complications as they are usually found in adults.

DISCUSSION.

Dr. Cleveland said he desired to call special attention to one point mentioned by the previous gentleman in connection with the secondary effect of kairin, not that the speaker himself had had any personal experience with this new remedy, but on account of its resemblance in the subsequent symptoms of collapse, to salicylic acid. For this reason he regarded the free use of salicylic acid pushed to its fullest physiological effect as decidedly hazardous. It will also engender profuse perspiration, an irritable stomach, and the symptoms of collapse. If there be any possibility of aborting typhoid fever (which the speaker really did not believe) it can be affected by the bold use of salicylic acid; but in genuine typhoid fever with tenderness and an irritable state of the bowels he did not consider it wise to resort to this agent. In small doses, perhaps, it may not be injudicious. In regard to the symptoms of typhoid fever as they occur in children he could also add that they resemble in nearly every respect those that occur in the disease in adults.

Dr. Nickles thought that the chief indication in the treatment of typhoid fever is to secure a reduction of temperature. Although typhoid fever is in all probability caused by some low organism in the system, we have no specific for its destruction unless it be perhaps calomel, which is converted into corrosive sublimate when taken into the body, thus acting as a parasiticide upon the disease germ in the ilium. Iodine was at one time said to modify the disease when given in the first week, but this is also now correctly doubted. We have now many antipyretic medicines recommended among which quinine, salicylate of sodium, resorcin and kairin are the principal. Of all these the speaker found quinine the most efficient—*provided it be given in large doses.* He gave it in doses of one scruple to adults when the temperature is 130° or over in the axilla, or 104° or over under the tongue in the evening, the only time for its administration. Sometimes the temperature will fall several degrees after one single dose; in one instance it fell from 105° in the evening to 99° the next morning. Usually, however, when there is a rapid fall of the temperature, profuse sweating will follow, and it may be laid down as a rule that what markedly lowers the temperature will be followed by this symptom, no matter what agent is employed.

In the mean time the speaker gave hydrochloric acid, not because he attributed a specific action to it, but because experience has shown that in typhoid fever there is a deficiency of hydrochloric acid in the secretions of the stomach, and he therefore administered it for the purpose of aiding digestion. He gave ʒ ij. of the dilute acid in the 24 hours to digest the milk, the nutrient article administered.

He was strongly opposed to the use of salicylic acid, because it is an irritant, an escharotic to the mucous membrane of the stomach, causing ulceration. It cannot be given in solution because it requires 400 parts of water to dissolve it; it must therefore be given either in powders or capsules, in the solid state. Some manufacturers claim that only the impure article has irritant properties, and an individual is now going around the city claiming that his preparation, because it is made of oil of wintergreen is not an irritant, but it is well known that the pure salt also has this property. The use of salicylic acid is irrational anyhow because it does not enter the blood as such, being insoluble; it is converted into an alkali which is readily soluble.

Dr. Cleveland replied that he did not mean the administration of salicylic acid alone, becouse he combined it with the bicarbonate of soda. He used the term salicylic acid only because it is the basis of its compounds, the salicylates.

Dr. Nickles replied that he took the previous speaker by his word, but as salicylate of sodium is officinal there is no necessity of combining the acid with bicarbonate of soda.

The reports on the use of kairin have thus far been favorable; in doses of one grain it will reduce the temperature four or five degrees, if given hourly, for unless its use is kept up the temperature will again rapidly ascend. As a rule a remedy that reduces the temperature rapidly, will also lose its effect very soon. This is as true of salicylic acid as of kairin.

Small doses of all these agents, however, are no use in lowering the temperature. Ten grains of quinine will not reduce the temperature, even if the same dose be repeated in a few hours, whilst twenty grains will, and this dose need not be repeated in the twenty-four hours.

Dr. Ransohoff enquired how Dr. Nickles administered quinine in such large doses without disturbing the stomach, especially in children, who vomit easily.

Dr. Nickles replied that in adults, if there be any fear of quinine not undergoing solution and absorption, it ought to be combined with hydrochloric acid. If the tongue is dry and fever high, quinine ought to be given in solution, if not, the powder may be given. The speaker always divided one scruple into four powders, of which one was to be given every ten or fifteen minutes. If the patient vomits the first, give him another, if the second, then another, and so on, until the medicine is retained. It is not usual for the patient to vomit the second or third dose. In children he gave the quinine in powder diffused through milk; although still bitter, it is not so much so as when given in solution. If it is not tolerated by the stomach at all he would give it per rectum.

To a question of the advisability of combining this drug with tannin, Dr. Nickles replied that he objected to this combination because it was rather insoluble, but it might be given because it is tasteless, and may be given in those cases where the sulphate cannot at all be given.

Dr. Cassat objected to quinine, especially in children, because it is a nauseous medicine. As heat is said to be the dangerous element by causing destruction of the muscular tissue, he relied chiefly on the antipyretic action of cold water, sponging the body continuously until the temperature came down. If the tongue is dry and fissured he gave an emulsion of turpentine combined with carbolic acid, (two drops of turpentine and a quarter drop of carbolic acid every 2 hours, to children), which is not nauseous. Cold water keeps down the temperature equally well and is not so difficult to administer as quinine to children; it is preferable to everything. If there be much diarrhœa he also gave some subnitrate of bismuth.

Dr. Nickles said that universal experience will not accord with these remarks. Washings of cold water will not materially reduce the temperature; the patient must be put in a bath for ten or fifteen minutes at a time as is done in the hospitals in Europe, but also these other antipyretic remedies must be added. When the temperature is very high the speaker also had the patient sponged, simply because it is very agreeable to him, and it quiets the nervous system when the skin is temporarily cooled. As the dryness of the tongue in typhoid fever is due to high temperature, he could not see how oil of turpentine could modify the tongue. The secretions being all diminished, turpentine will not in moderate doses, (ten to thirty drops every 3 hours), reduce the temperature. It may hasten the peristaltic action, overcome the ulceration of the mucous membrane and also increase the activity of the kidneys, but it increases no other secretions except the urinary.

Dr. Stewart remarked that Frerichs, in his clinic, which the speaker attended last June, said that calomel was really the most rational method of treating typhoid fever in the beginning, but that the profession objected to its use because of the catharsis. Frerichs also holds that calomel is changed into the bichloride of mercury, which is the best antiseptic against the minute organisms, the essential cause of typhoid fever.

With quinine the speaker had some very interesting experience while an interne at the Cincinnati Hospital. During the intense heat of the summer in 1881, many cases of sunstroke were brought to the hospital, amounting to 120 cases in one week. To reduce the high temperature quinine was given in large doses; but as it could not be given either by mouth or rectum, it was administered hypodermically in a strong solution containing one-half grain to the drop, until ten to thirty grains were injected. Although these injections were sometimes repeated, a reduction in temperature was never achieved. Certainly, by this method, the effect of quinine ought to have been obtained. On the other hand, cold baths always reduced the temperature in all of these cases. The speaker also observed the failure of quinine in other diseases, notably in puerperal fever, where large doses, of twenty or thirty grains in a single dose, or ten grains repeated every half hour, did not cause a reduction of the temperature.

Dr. Forchheimer said he had hoped that the discussion would be limited to a consideration of typhoid fever as it occurs in children. It is known that in children it is different from the disease as it occurs in adults. As a rule, the younger the child the less the danger, and particularly in very young children the death rate is almost nil. On this account active treatment is usually not called for, but at the present time the disease is, even among children, unusually severe. Of all remedies quinine is the most nauseous for children, making it difficult to administer and to keep down in the stomach, especially in the dose recommended by the Germans—one gram, or fifteen grains. This quantity is so bulky that in a young child it will fill the œsphagus and stomach, so that it can not be retained; but unless it be given in large amount, or at least in divided doses within one hour, quinine does no good. The speaker tried to give it per rectum in double the ordinary dose, but found that even by this method it will not be retained. The tannate of quinine he also tried when he could not give the sulphate, in the same doses as the latter, mixed with powdered licorice, but he found that children will occasionally not retain even this salt. He therefore looked with pleasure to the new antipyretic kairin. Unfortunately this agent is also unpleasant to take, but not quite so bad as quinine.

He would caution against the use of cold baths in children, for it has already happened that children have been put in cold water alive and were taken out dead. Children are very liable to collapse if put into a cold bath when fever is high. For this reason the speaker discarded cold baths altogether, substituting for them either the wet pack (cold-water wrappings), or, preferably, the lukewarm bath. This may be repeated every two hours and can be easily intrusted to the parents.

Dr. Reamy said there could be no question that typhoid fever is less fatal in children than in adults. The high temperature has not the same damaging effect, and ulceration of the intestines rarely proceeds to perforation in a child; at least the speaker never saw a case of death from this cause, although children may die from hemorrhage.

He also agreed to the difficulty of giving quinine to young children; but when we recognize that typhoid fever in a child is not dangerous if let alone, and even less so if uncomplicated, it is not necessary to give quinine. The nausea of quinine is due to mixing it with syrups, etc., to disguise the taste. The best way to take quinine is simply in water; it is still very bitter, but this bitterness is not very lasting, and no nausea follows.

The speaker thought that Dr. Nickles had hardly done justice in his reference to turpentine as an agent of little value in typhoid fever. Nor was his statement entirely correct in answer to a previous speaker, who recommended turpentine when the tongue is very dry, that this dryness is the result solely of the increased temperature; although it is generally associated with high fever, a furred tongue is found in certain conditions of the intestines independently of increase of temperature, but this furring is frequently intensified by lying with the mouth open. The intestinal derangement is not always in proportion to the height of the fever, and turpentine has a special action on the mucous membrane of the bowels.

As regards calomel the speaker would reply, that in the years 1851–53, when typhoid fever scourged the central part of this State, and was then attended with a fearful mortality, calomel was the sovereign remedy. It was given in three or four-grain doses three or four times a day, and its purgative action controlled with opium and acetate of lead. Physicians relied upon calomel so strongly that they could not account for the fact that the disease would not abate under this treatment. Most of the patients died at the end of the second week. Calomel was then discontinued and the mineral acids employed instead.

The danger of collapse attending the sudden depression of temperature is referred to by several British authors, and the various substances recommended for this purpose are no safer than veratrum viride when judiciously given.

Dr. Osmond said he remembered the fatal epidemic alluded to by the previous speaker, from the years 1850–53. He recollected, also, the filthy barn-houses, stables, and outhouses, which formed so favorable a soil for the spread of typhoid fever. The causes were then understood by many, and a rational plan of treatment attempted. The turpentine treatment was first recommended by Dr. Wood, of Philadelphia. The speaker, who was then practicing medicine, had good success with its use, an amelioration of the symptoms following in almost every case.

It must be remembered, however, that typhoid fever runs a definite course, and turpentine can not cut this short. The speaker also always favored calomel, especially when combined with morphia, and he observed that when ptyalism was established the patient was generally on the way to recovery. He also favored cold effusions, and particularly for farmers, who can not be accused of too great personal cleanliness, baths were very serviceable. He sometimes added soda or lye to the water to render it slightly alkaline.

If it was not these agents that controlled somewhat the terrible mortality, what was it? Turpentine inhalations have lately been again recommended as a new treatment for diphtheria; and calomel, when converted into the bichloride, is said to be the most powerful antiseptic. If these agents act as parasiticide, and the poison of typhoid be a germ, certainly no treatment could be more rational. Large doses of calomel will almost always prove fatal; it must, therefore, be given in small doses.

Dr. Nickles was of the opinion that calomel can be of service only in the first few days of the disease, when the poison is still in the alimentary canal, but to be effective it must be given not in small, but in large doses, to purge briskly. Turpentine was recommended by Wood only at the end of the second week, and when the tongue is dry and fissured. It has certainly some good qualities, but not enough to induce us to place too much reliance on it as a curative agent in typhoid fever.

Everybody will admit that the tongue will become dry when a patient breathes with his mouth open; but the dryness of the tongue in typhoid fever is directly owing to the fever, and not alone to the fact that the patient breathes through his open mouth.

To dissolve quinine in sufficiently large doses for administration in typhoid fever in water alone, requires an enormous amount of fluid (as one part of quinine is soluble only in about 700 parts of water) in the proper dose, making a quantity too great to be taken at one time. Moreover, when it is dissolved, quinine is intensely bitter, more so than when given in powder; for solids are almost tasteless.

Dr. Reamy replied that he did not mean a solution of quinine, but a mixture, in the same manner as the previous speaker recommended it to be given with milk in young children. Just because it is not dissolved it is less bitter with water alone, whereas when other substances, as acids, are added to increase its solubility, the bitterness is correspondingly increased. He endorsed everything that was said about turpentine, except the statement that it does not reduce the temperature when the intestinal derangement is threatening.

Wood at first made the statement that children and old people very rarely contract typhoid fever. In a personal correspondence, however, with the speaker in 1855, this eminent physician said that he would take back all these statements, as subsequent experience led him to think otherwise. The speaker also perfectly agreed with Dr. Forchheimer in cautioning against the use of cold water baths for high fever in children, as they are extremely hazardous. In conclusion, however, he thought every contribution to the treatment of this very important disease, ought to be carefully weighed, and every man ought to be allowed to express his clinical observations for the guidance of others.

NEW YORK NEUROLOGICAL SOCIETY.

Meeting of January 8, 1884.

President, Dr. Wm. J. Morton, in the Chair.

Note on the Use of Menthol as an Anodyne.

Dr. E. C. Wendt showed a little contrivance, called by the Germans "migräno stift," and explained the method of its application and uses. It consisted of a piece of menthol moulded into a conical shape, and secured in a little wooden box, closed by a cover to prevent evaporation, soiling, and breaking. It seemed to be very little known here, although it was much used abroad, especially for sick headache.

His attention had first been directed to the anodyne properties of menthol by a short notice, published in the *Medical Record* of April 28, 1883, by Dr. Camann. That gentlemen had recommended an alcoholic solution of menthol (ʒi to ℥ss. alcohol) to be painted over the affected parts. Dr. Wendt had, since that time, often used this solution, and found it a rather reliable anodyne. Its pain-relieving action was restricted, however, to the slighter ailments, especially those of a neuralgic character. Since his acquaintance with the solid menthol-cone, he had frequently substituted the direct application of menthol by means of the latter for the solution formerly employed. He would admit that the only advantage which the solid cone or pencil had over the solution consisted in the greater simplicity of its application, its ready portability, and the fact that its vapor was not apt to irritate the eyes of susceptible patients. He had repeatedly heard complaints in that direction from ladies regarding the solution, which was obviated by using the cone.

In this country menthol had not yet received that amount of recognition from the profession to which its pain-obtunding properties would seem to entitle it; in fact, little seemed to be known about it, and for this reason Dr. Wendt thought it might not be amiss to quote a descriptive notice which had appeared in the *Midland Medical Miscellany* of October, 1883:

"Menthol, or menthylic alcohol, is a crystalline substance deposited from the oil of peppermint, prepared in China and Japan from *mentha arvensis var. piperances* and *glabrata.*"

It formed the chief ingredient of a much-valued remedy for neuralgia before its nature or source was generally known. Under the name of po-ho-yo, or *gouttes Japonaises*, it has been sold in small bottles, labeled with Chinese characters. It is a white crystalline stearoptine, melting when pure at 97° Fahrenheit, and is obtained by the Japanese from the oil of peppermint by submitting it to freezing several times in succession until no more menthol crystallizes out. It is also said to be contained in the American and English oils of peppermint, but probably in small quantities only. It is somewhat surprising that the Japanese peppermint plant, which is grown in England as a curiosity, has not been cultivated in that country as a source of the drug, the supply of menthol being uncertain, the demand great, and the price, in consequence, occasionally very high.

Menthol is said to be sometimes adulterated with crystals of epsom salts, to which it bears a great resemblance. These being insoluble in alcohol or chloroform, in which fluid menthol is freely soluble, can easily be detected. Samples of fine crystals sometimes contain some essential oil, adhering to them, a fact which must be taken into consideration when the menthol is made into cones or pencils.

Menthol is but slightly soluble in water, although imparting a strong odor and taste to that liquid, and is soluble in aqueous alkalies. It is soluble in fixed and volatile oils and in ether.

Although Dr. Wendt's experience with menthol had not yet been a very extended one, it had nevertheless been sufficient to convince him of the utility of the drug, in a rather large class of cases. Thus, as already stated, he had found it a pleasant and reliable anodyne in all the lesser neuralgias, and especially in those so frequently occurring about the face. But it was also serviceable in many painful affections, due to inflammatory processes. For example in mumps, in the cervical adenitis so often accompanying sore throat and in numerous other affections, where pain was a prominent symptom, menthol might be used to advantage. With regard to its topical action it was similar to that of aconite, over which it had the advantage of not being poisonous.

Dr. Wendt remembered one rather striking case of quite severe supraorbital neuralgia, which refused to yield to the oleate of aconitia, but was much benefited by the menthol. But on the whole, in violent attacks he had found it almost useless. In typical migraine for instance, where the pain was at all severe, and in all deep-seated aches of more than very moderate intensity it had no appreciable effect, except perhaps the indirect physical action of distracting the sufferer's attention.

DISCUSSION.

Dr. Roberts asked Dr. Wendt if he had tried the prolonged application of menthol.

Dr. Wendt said that he had in some cases of hemicrania, though without decided benefit. Nevertheless, the patients experienced a pleasant sensation of coolness of the surface followed by a feeling of agreeable warmth.

Dr. Morton desired to ask Dr. Wendt in what sense he used the word anodyne. Dr. Wendt said in the usual one of affording relief from pain by blunting sensibility.

Dr. Morton thought that menthol probably acted more after the manner of counter-irritants by insuring relief in a reflex rather than directly local way. Mustard was a typical peripheral nerve-irritant, and it seemed to him that the action of menthol could be best explained on the same principle of procuring peripheral nerve-impressions in a reflex way.

Dr. Morton continued that his attention had been first called to the menthol-cone by Dr. Wendt. He chanced to be at the latter's office one day when suffering from a headache. A few strokes of the menthol gave him at once a sense of relief. He felt the effects of the peppermint to be as gratefully cooling as the application, say of cold metal. In brachial neuralgia, as well as in sciatica he had been pleased with the good effects of menthol. He thought the drug was deserving of further trials.

Dr. Ralph L. Parsons read a paper on

Detention in Asylums.

The reader spoke first of the question, whether sane persons were not often improperly or unjustly detained in asylums for the insane; and secondly, whether many uncured and incurable patients who were now methodically detained in asylums might not advantageously be returned to their relatives, or placed in the care of private families under State supervision.

It was assumed in the first instance that the detention of patients after recovery had taken place, for a longer time than might be required, was quite possible and even probable in some instances. But he claimed that such detentions were not usually serious to the patient; that on the other hand, too early discharges might be more injurious. It was also admitted that maliciously unjustifiable detentions were quite possible, as any other sort of injustice is possible on the part of persons holding positions of power and responsibility. But reasons were urged by Dr. Parsons in support of the belief that such malicious detentions were at least very rare; that sentiments of honor and professional pride were strong deterrents, to say nothing of the great danger of detection in the commission of the wrong, and the ease with which patients, who were decidedly insane, obtained their enlodgement through the intervention of the courts.

Cogent reasons were given why various classes of convalescents ought to remain under the asylum care for a period of time after they appeared to be well; as for instance, when they would be immediately subjected to the exciting cause of their insanity on their return; when the progress toward convalescence had been characterized by relapses, or when dangerous delusions had been entertained and had faded away so gradually that there were difficulties in judging whether they had passed away entirely.

But on the other hand the discharge of certain uncured curables before they were well was advised, as when after making a certain degree of improvement, this improvement stopped and the patient seemed to retrograde. It might be safe and highly advisable to discharge some of these patients before they were well.

The major part of the paper was devoted, however, to an advocacy of the discharge from the asylum of harmless incurables, and their return to the care of their friends or placing them with ordinary families as boarders, and in some sort as members of the families.

It was claimed by the reader that, however comfortable and happy such patients may appear to be in large asylums, there are many causes of annoyance and discomfort that would not be experienced in ordinary family life; that, notwithstanding the fine buildings they occupy and their freedom from care, they are still prisoners and exposed to many disagreeable associations and associates.

Quotations were made from Dr. Bucknill and from Dr. Maudsley, strongly supporting these views.

The question was then considered, what classes of incurables might safely and with benefit, be released from asylum restraints. Since, in the case of a great majority of such patients and a moderate cost of maintenance would be essential, those only would be adapted who were quiet and orderly and would require no especial attendance or supervision. Habits of industry would be favorable.

Whether such patients would do better with their relatives or with strangers would depend on the cirsumstances of the family, the state of health, the surroundings, the feelings or notions of patients, etc. It would be found, however, that many patients who would not do well with their own kindred would be happy, contented, and useful with congenial strangers. It would be impossible for the patient to resume his former position and influence in his own family, and hence he would be subjected to irritating restrictions and annoyance there.

As a preliminary measure, a system of legalized furloughs was advocated, to the end that at first the patient might still be under legal restrictions and easily returned to the asylum, if the trial at large should prove a failure.

Properly constituted authorities should make the selection of patients for the trial, with the assistance and under the advice of the Asylum Superintendent.

The families in which the patients should be placed should be selected with great care. While at first there might be found very few suitable families who would assume the charge, it was thought that when a beginning had been made, plenty of suitable homes would be offered. Reference was made to the multitude of respectable and responsible families who take summer boarders for a moderate compensation and the probability that some of these families would prefer one or two permanent patient boarders to a number of sane boarders for a short season during the busiest portion of the year. A suitable system of visitation and of reports was advocated. The paper closed with the following summary of conclusions, to wit:

1. That in as much as many recoveries take place in Asylums for the Insane, it is to be expected that some convalescent patients may at any time be found in the wards.

That while possibly now and then a convalescent patient may be detained on probation an unnecessary period of time, such cases are not of frequent occurrence, nor important in their consequences when they happen; and that when they do occur the detention is very rarely indeed through criminal intent.

That many harmless incurables are unnecessarily detained in Asylums for the Insane; that these incurables would be happier in the enjoyment of ordinary family life and associations, and that systematic efforts should be made to secure their enlodgement and their establishment under family care.

4. That under certain circumstances curable patients should be removed from asylum restraint and associations while yet uncured.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Thursday Evening, Jan. 10, 1884.

The President, Dr. Tyson, in the Chair.

Osteo-Myelitis of the Tibia. Exhibited by Dr. C. M. Wilson.

Geo. L., æt. 42, was admitted into the surgical ward of the Pennsylvania Hospital November 26th. Sixteen days previously he had been knocked down on shipboard and had sustained a wedge-shaped fracture of the tibia and an oblique fracture of the fibula of the right leg about the middle. When admitted the fragments were in malposition and partially united. There was considerable deformity, the lower fragment of the tibia being tilted up and overlapping the upper fragment. By appropriate treatment the fracture retained in fairly good position and the case was progressing favorably until the afternoon of December 26, just one month after admission, when he had a severe chill followed by a temperature of 103½° F. He complained of violent pain in left shoulder joint. He was treated with salicylate of sodium. Next morning his temperature was 102½° F. with intense pain in both shoulders and elbows. The same anti-rheumatic treatment was continued under the supposition that the case was one of acute articular rheumatism, the man having been exposed to a draught. The afternoon of the second day he had a severe chill with an evening temperature of 104⅓° F. and a presystolic mitral murmur was detected. Dr. Wilson now considered the case to be one of pyæmia, and gave massive doses of quinia, stimuli and digitalis, Man steadily grew worse and died of exhaustion on the morning of December 30.

Post-mortem, 26 hours after death. Rigor mortis marked. Body well nourished. Posterior portion of body much discolored; extensive ecchymoses over arms and shoulders. Small patches over abdomen and chest; 1½ ounces of clear serum in the pericardial sac, with many ecchymoses over the surface of the heart. Both sides of heart relaxed and partially filled with post-mortem clots. The valves on right side appeared normal. The aortic valves were incompetent and their free borders were roughened by recent vegetation. There was also some slight thickening and contraction. The mitral valves showed old thickening as well as signs of recent inflammation. The endocardium of the left ventricle showed numerous spots of ecchymoses. The heart weighed 16 oz. and its tissue was a good deal softened. Spleen normal. Left kidney weighed 7 oz., was somewhat swollen and its tissues were slightly flabby. The capsule was thickened and somewhat adherent. The organ was congested and somewhat swollen. Right kidney weighed 6 oz. and presented same appearances as the left. Liver was large, swollen and marked by the ribs. Its surface was mottled with rounded yellowish patches, surrounded by dark red areolæ. Section showed it to be markedly congested. Its weight was 4 pounds, 4 ounces. Lungs much congested. The base of the left being anteriorly bound down by old adhesions. The brain was not examined. Examination of the fracture showed it to be ununited and there was no callus detectable. The periosteum tore easily. On section the medulla of the cavity of the tibia showed marked evidences of inflammation. There was a puffy septum of granulating tissue between the ends of the fragments. Above there was evidence of extravasated blood and two and one-half inches above the line of fracture there was a small circumscribed medullary abscess. The medullary cavity was inflamed and streaked with red lines.

Through the kindness of Prof. Brinton and Dr. Longstreth, Dr. Wilson was enabled to show several pictures illustrative of osteo-myelitis. This is the only case of death from simple fracture recorded at the Pennsylvania Hospital. This disease must be a very rare sequel of simple fracture. It is not necessarily a fatal disease, as the inflammation may become circumscribed, a depot of pus formed, and the destructive processes end there, or a portion or the whole of a bone may die or be removed. It is easy to see how a virulent inflammation going on to suppuration, with no vent to the pus, as in this specimen, could readily give rise to septic poisoning. Dr. Wilson acknowledged his indebtedness to Dr. Longstreth both for the specimen and assistance in its preparation.

DISCUSSION.

Dr. Tyson said that he had seen many cases of osteo myelitis from gun-shot injuries during the late war, but he could not recall a case where the medullary canal was encroached upon by a condensing osteitis, as in this specimen.

Dr. Nancrede related a case of fatal septic trouble following a simple fracture of the thigh, where the starting point seemed to him to have been a superficial ulceration of the spine, produced by the adhesive plaster. Possibly, section of the bone might have revealed an osteo myelitis, but as the fracture was firmly united, he thought that the skin abrasion was the starting point, and related two cases of pyæmia produced by equally trivial causes.

Dr. Longstreth related a case seen by him when a resident physician at the Pennsylvania Hospital. The patient had a fracture of the thigh of three weeks standing, and was apparently doing well, when chills, sweats, lung consolidation, etc., etc., ushered in a fatal attack of pyæmia. A post-mortem revealed osteo myelitis and general pyæmic manifestations. A possible explanation of Dr. Wilson's case, the subject had been on board ship for three weeks after his injury, where the treatment must have been of the crudest description.

Dr. Eskridge called attention to the endocardial trouble found in septic disease, which he had been taught, as a student, to consider was of an ulcerative form, and of fatal prognostic import. He had, however, seen two cases which presented all the symptoms of ulcerated endocarditis, but which had recovered; while in two others, with a similar clinical history, post-mortem examination revealed only a simple non-ulcerative endocarditis.

Dr. Shakespeare asked whether this condensing osteitis might not have been due to a previous syphilitic trouble.

Selections.

SURGERY.

Catheter Fever. — By Sir Andrew Clark, Bart., M.D., LL.D., *in Med. Press*: Somewhere about the year 1850, one of the medical officers of Haslar Hospital (who, I dare say, will be kept in remembrance by my former messmate, Sir Joseph Fayrer), between fifty and sixty years of age, of nervous constitution, but apparently in robust health, requested me to examine his urine. Accordingly, I submitted it to as careful an examination as I was then competent to make, and all that I could find out against it was, that it was too great in quantity, too low in density, and too pale in color. He then informed me that he had trouble with his bladder, that he meant to consult Sir Benjamin Brodie, and that he wished me to accompany him for that purpose to London. Sir Benjamin examined his patient, drew off a large quantity of urine from the bladder, told him he was suffering from simple enlargement of the prostrate, prescribed the regular use of the catheter, and with a few general cautions against a careless diet and exposure to cold he quickly but kindly dismissed us both. We returned to Haslar. In about a week, the patient was free from local discomfort, and without complaint of his general health, but then he began to feel and look ill. He lost his appetite; was tormented by thirst; had nausea; became feverish; took to his bed; got daily worse; and, notwithstanding the efforts of his colleagues, who could not agree as to the nature of his malady, he died in about three weeks from the beginning of his illness. No post-mortem examination was allowed. The case here so imperfectly narrated made upon my mind an impression which has never been effaced; but, until about the year 1865, I saw no other case exactly resembling it.

In that year, I was summoned by Mr. Peter Marshall to visit a gentleman suffering from fever. Certainly he was in what is called vaguely amongst our elder brethren, a typhoid state. He was between fifty and sixty years of age. He was lying on his back in bed, apparently in a state of great prostration. The face was faintly yellowish and mottled, the lips dry, the pupils dilated, and the breath fœtid. The tongue was small, brownish red, dry, tremulous; there was complete anorexia. The bowels had been imperfectly relieved. The urine, habitually removed by the catheter, was low in density, acid, and deposited on standing, a little muco-pus, and contained a small quantity of albumen. The heart's action was quick and frequent, the pulse small and compressible. The bases of both lungs were congested. The skin, subicteric, and for the most part rough and dry, was here and there, chiefly about the hands and feet, bedewed with watery sweat. The acuteness of all the special senses was blunted; and the patient dull, heavy, and indifferent, could yet be roused to speak, and to answer clearly questions put to him. The temperature of the body at the time of examination in the afternoon was 103°. The story of this case resembled the story of the case first narrated. The patient, supposed to be healthy, but suffering from an affection of the bladder, was, a few weeks before my visit, placed upon the daily use of the catheter, did well for about a week, then became ill, and fell suddenly downward into the condition in which I saw him. Neither Mr. Marshall nor I ventured to form a definite diagnosis of the nature of the patient's malady; but, remembering the case at Haslar, I suggested that the fever, which, we agreed, was not a specific fever, had originated out of the condition begotten by the entrance upon catheter-life. I saw the patient only once. The remedies proposed, the food, the alcohol, the quinine, the aperients, were all of no use to the patient, and he died within a week of our consultation. With great difficulty, permission was obtained to make a post-mortem examination; and although it was made with both care and interest, nothing was found outside the bladder, and nothing in it sufficient to necessitate or account for death. The prostate was enlarged, the bladder was dilated and thickened. Viewed from the inside, it was trabecular and slightly saccular; the mucous lining was congested, and, in part eroded, and everywhere coated with a greyish-white stinking mucus. There was nothing to be detected in the urethra or in the kidneys, although they were carefully examined. I was accustomed to such examinations, and neither Mr. Marshall nor I could say anything better of the cause of death, than it was due to irritative fever.

The study of this case gave birth to the opinion (now a confirmed belief) that the entrance upon catheter-life occasionally gives rise to a pernicious fever, which, in the majority of instances, destroys life, and is sometimes, without the intervention of any sensible structural change, sufficient to account for death. Since 1866, every year has added to my experience of such cases; and, for over ten years at least, I have been in the habit of mentioning them to surgeons with whom I have had the privilege of consulting. From Sir James Paget, and especially from Sir Henry Thompson, whom I have often met in such cases, I have received at various times much important information; but as I have received from neither of these distinguished surgeons explanations completely in harmony with my own experience and views of such cases as the one just narrated, and as further information might be now in their possession, or in the possession of others, I ventured, upon a recent occasion, at the Clinical Society, to mention the subject in the way in which it has occupied my thoughts, and to invite from my surgical contemporaries their latest experiences and conclusions concerning it. The constitution of the Clinical Society did not permit abstract questions of this kind to be discussed, and my object was not to offer, but to receive, information. My remarks, finding a place in the medical journals, and being by them widely disseminated, have elicited from practical surgeons in all parts a variety of interesting and instructive communications concerning the nature and causes of the fever which occasionally follows casual or habitual catheterisation. Nevertheless, as the exact character of those remarks which I made has been, doubtless my own fault, misapprehended, and as the subject is of such importance as not only to justify, but to require, the statements made respecting it should be accurate and clear, I gladly, as I have said, comply with the request conveyed to me from various quarters to re-open the subject. Now, sir, it is not my intention on the present occasion to narrate a series of cases and to build thereon a dissertation upon what, for the sake of provisional convenience, I have called catheter-fever. I have not, indeed, at my command the materials necessary for such an undertaking; and if I had, devoid as I feel myself to be of the enlightenment and strength which flow out of the surgical instincts begotten by long surgical experience, I would not attempt it. I have seen many cases of catheter-fever, but I have never had charge of one. I have visited my cases only occasionally, and in consultation with other practitioners; and almost always my colleagues have been too busy to keep and to furnish me with minute and continuous records. Indeed, from the present temper of the public mind, the fear which patients have of being made the subjects of experiment, and the demands so thoughtlessly and even cruelly made upon a practitoner's time, it has become increasingly difficult to keep clinical records of any case for oneself; and the public, in what I must call its vicious stupidity, in thus hindering us from helping it so well as, otherwise, we might have the power to do. But, although my records of individual cases of catheter-fever are thus, from the necessity of the case, incomplete, I venture to think that, both by the study of their salient characteristics and by the questioning of those in charge of them, I have learned at least enough of their nature and importance to justify me in making certain propositions, and in asking certain questions concerning them. The statements which I propose making about this catheter-fever will be most conveniently embodied in a short series of propositions, But, before submitting them to your consideration and criticism, it will be necessary, in order to obtain a clear and comprehensive understanding of the subject underlying them, to discover the origin and to follow the historical development of those ideas which have shaped the theories of surgeons and determined their lines of practice.

I have here a table, which, I regret to

say, is imperfect. It is a table prepared by my assistant, Dr. Delepine, who has devoted to it most careful study and most conscientious care; and it has, on account of the deficiency of indices to books, occupied an amount of time and caused a degree of labor which you can scarcely imagine. I shall have it, for further purposes, completed. In the meantime, it will enable those who do not follow me closely in reading to determine for themselves the order and development of the ideas which have been promulgated concerning this subject. I shall not, in my retrospect, follow as minutely as is here followed the development of these ideas; but I shall take the leading ideas; for, by holding to these leading ideas alone, I think we shall be able to survey the whole field.

In 1800 it was known, but not distinctly expressed, that surgical interference with the urethra and bladder was sometimes, and in certain circumstances, followed by an irritative fever. It was not, however, until 1810 that Moffat, as quoted by Velpeau, described a case of stricture of the urethra, in which simple catheterism followed by rigors, irregular fever, purulent arthritis, as it is called in France, and death. In 1832, ideas concerning the casual relationship of catheterism to consecutive fever first found form and expression in the writings and teachings of Brodie and Velpeau, and perhaps of Civiale. Brodie distinctly and even emphatically, mentions the dangers of catheterism, and describes as occasionally occurring in consequence of it, paroxysms of irregular fever—like ague, and leading sometimes to prolonged debility, sometimes to continued fever, with rheumatic pains, and sometimes even to mania. He further says that, in such cases, death may follow, but he cites no case of its actual occurrence. Valpeau enters much more minutely into the nature and relations of the fever thus mentioned, and contributes several new ideas to the further development of the subject. He alleges that in some persons, perfectly healthy, not malarious, not exposed to its influences, even easy catheterism may develop a consecutive and continuous fever, and that this fever has five varieties. In the first it consists of a single paroxysm of fever, ending in *malaise* and debility, with recovery in a few days. The second consists of recurring paroxysms of fever, issuing in continued fever, and oftentimes fatal. The third consists of an inflammatory fever arising out of nephritis, phlebitis, and other local inflammation. The fourth consists of fever, associated with purulent arthritis. The fifth consists of a rapid succession of violent paroxysms of fever, speedily ending in collapse and in death. Valpeau then points out, and very clearly, that in the second and fifth varieties he has never found present at the necropsies any adequate structural cause of death, and in these cases he is disposed to regard the origin of the fever as caused by the re-absorption of vitiated urinary constituents. But on this, and indeed on similar points of pathogenesis, he is both obscure and vague. Civiale, whose great work is disfigured by passionate claims of priority in this matter (of which claims he furnishes no proof), and by the satircal invective which he launches against the juster and greater Valpeau, gives a full and admirable description of this catheter-fever; but whilst admitting that the fever is due sometimes to the urethra, and sometimes to the bladder, and contending that the fever of the one differs essentially from the fever of the other, he almost angrily minimises the effects of surgical interference, and, it would seem as if with a judgment disturbed by emotion, contends that in most cases the fever has existed before the use of the catheter, or that it is due to nephritis (1).

But in the latter part of Civiale's work, marked by greater sobriety of language and a more judicial tone of argument (page 612, ed. 1860), he distinctly qualifies these strong assertions, changes his point of view, and says that the cause of fever is vague and uncertain, and that, in speaking of its nature, we can only guess.

In 1858, Mr. Phillips contributed some further ideas concerning the conditions under which the fever is developed. Describing the fever, and in the main following the classification proposed by Velpeau (who, it may be remarked, is the source whence almost all subsequent writers have derived their inspiration, and sometimes, without acknowledgment, their ideas), he asserts, first, that the simplest as well as the severest catheterism, with the largest or the smallest instrument, may originate the fever; secondly (and this is the most important contribution, if it be a true one, which he had made), that, unless the affection of the urinary passage left behind the bulb, the fever does not follow; and, third, that the predisposition to the fever does not lie in the state of the nervous system at all, but in the existence of certain diathesis and in chronic disorders of the general health.

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(1) I owe to Dr. Matthews Duncan my best thanks for a letter, in which he tells me that he has listened to Valpeau setting forth the characters of this very catheter-fever to which I am calling attention.

In 1859, Marx, in a monograph of remarkable merit, reviewed the state of the question at his time, and contributed to its elucidation and development certain important facts and ideas, expressed with great clearness and used with judicial ability. He adopted a classification of the varieties of catheter-fever similar to that given by Velpeau; recognized uncomplicated cases issuing in death without any discernible structural lesion outside the bladder, quoting eight or nine that occurred in his own experience; asserted that it may occur in persons of perfect health; and that, in them as well as in others not healthy, it may follow upon any state of the urinary organs requiring the passage of a catheter; and, finally, he declared with emphasis the fever to be positively uræmic, and ascribed its origin to insufficiency of the kidneys arising out of functional or of structural disease. In this work, perhaps for the first time, the casual relationship of catheterism to catheter-fever was most clearly and comprehensibly set forth, and a logical, coherent, and ingenious, if not accurate, theory of the genesis of the fever was propounded.

In 1867, the practical, and indeed, also, in some respects, the theoretical, aspects of this subject were greatly advanced by the now classical work of Sir Henry Thompson on the urinary organs. In this work, characterized by great force, method, clearness, precision, and knowledge, he mentions the perils of catheterism, gives instructions for averting them, notices the occurrence, in a few exceptional cases, of a low, irritative fever, and quotes Sir Benjamin Brodie to show that, in a few weeks, it might terminate in death. But, furthermore, he says (and here he differs from almost every one of his predecessors in this line of inquiry), that in all such cases will be found old-standing pyelitis, with dilatation and marked degeneration of the renal structures, and that in no circumstances could such patients long survive. Looking at the unrivaled experience of this distinguished surgeon, and remembering how often I myself have consulted with him about cases such as this that I am now considering, I confess to a feeling of disappointment that he has not had time to give to the profession a more serious and adequate account of this important matter, which he must know better than almost any one else.

In 1867 the distinguished President of this Society, Mr. Joseph Fayrer, gave an admirable account of the varieties of catheter fever; declared, if I understood him aright, that the predisposition to it lay in the malarious state and its consequences, or else in incipient or advanced disease of the kidneys or other parts of the urinary tract; that it began (and from him we have for the first time a clear and express statement on this point) in reflex disorder of the nervous system; that it was not toxæmic; and that catheterism alone, without injury or sensible irritation, was in these circumstances sufficient to originate the febrile phenomena and process.

In 1868 Sir James Paget notices this fever, and makes some remarkable additions to our knowledge of it. He says that, when the urine is of low density and abundant; when the patient is gouty, dyspeptic, or otherwise chronically disordered; when, having a stricture, it becomes irritable, and weakens the health; or when, being old, something has occurred to cause temporary depression of the health, catheterism will be especially dangerous, and may bring about a fever, ending in death. He leans to the opinion, although he does not distinctly express it, that renal degeneration is the cause of the fever, but admits that, so far as his own experience goes, the cause is apparently inadequate. Lastly, he states that the mortality of such cases is from three to four per cent.; which, even with my grave views of the subject, is a much higher ratio than my own experience would have led me to expect.

In 1871 Mr. Banks, of Liverpool, describes the effects of simple catheterism, and classifies them into three varieties—first, rigor, with *malaise*, recovering speedily; second, rigor, with *malaise* and prostration, followed in a few days by fever and death; and, third, cases of shock, producing death within sometimes a single day. Admitting that renal disease predisposes to such attacks, he denies that they are due to suppression of urine, and ascribes them to shocks of greater or less severity propagated through the sympathetic nervous system. Here the nervous theory begins to preponderate over the other. In 1873 Malherbe, in his work on the fever of diseases of the urinary passages, presents a fairly just account of the state of our knowledge of this subject at the time of publication, and he adds certain important cases of his own. These cases are illustrated by a number of interesting and instructive temperature charts. He avers that the fever may arise without local irritation; describes it as uræmic; alleges that the predisposition to it is renal; and whilst admitting—nay, giving evidence of the admission—that in some cases, not a few, no structural lesions are found after death, yet he holds to the hypothesis that the origin of the fever is in renal imperfection.

In 1877 Mr. Marcus Beck contributed to the further elucidation of this subject two important papers bearing upon them the marks of practical knowledge, accuracy of observation, and careful thought. Describing the fever in which death may occur in from nine to forty-eight hours (and not, as I found, noticing the longer fever of which I speak), he holds that the predisposition to it lies in the chronic disorders of the health, in renal imperfections, and in age; that the exciting cause is probably mechanical irritation or lesion of the urethra, and that the fever is begotten through irritation of the spino-cerebral and sympathetic nerves, reflected upon the kidney, and bringing about structural or other insufficiency thereof. Beck strongly supports the hypothesis that the fever is uræmic, but plainly his views are based on the study of old worn-out hospital cases.

Now, without carrying it further, it will be seen from this rough historical retrospect that catheterism is occasionally followed by a fever which has received the various names of urethral fever, urethro-vesical fever, urinary fever, uræmic fever, catheter fever, and so forth; that, in some cases, this fever is dependent upon, or associated with, purulent arthritis, ordinary pyæmia—what is known in England as surgical kidney, or interstitial nephritis—and that, in a small, but still noticeable percentage of cases, no adequate structural cause of death has been found. Now, it was of this last variety of fever that I spoke upon a recent occasion at the Clinical Society, and it was of this variety alone that I made, or mean to make, the following propositions:

First, about middle life in men perfectly healthy, or with no discoverable evidence of disease, except, perhaps, and even then not always, a low density of urine, the commencement of the habitual use of the catheter is sometimes followed by fever of the remittent type, which often ends in death; and, for the fatal issue in such cases, no adequate structural explanation can be found.

Secondly, it is important that such a fever arising in the midst of apparent health from such a seemingly small cause, and leading so often (as it certainly does), to a fatal issue, should be well and widely known, lest death should take the friends of the patient by surprise, and arrangements necessary to the welfare of a family should be left unmade.

Thirdly, although it is well known that in persons affected with renal disease, or in chronic gout, or with grave disorders of the general health, the commencement of habitual catheterism is attended with peril to life from secondary fever, the fact that this fever may arise in what seems to be good health, and, without the mediation of any visible structural lesion, issue in death, is not well known, or at least well known only to a few, and has, I repeat, no adequate place in English surgical literature, or in the English surgical teaching of this time. Of course this knowledge will be found, as I have in a very imperfect way shown you, in special monographs and papers; but those are the luxuries of the few, and, for the most part, the luxuries of specialists who work in that direction; but such knowledge should be, as I think, fully imported into all common text-books, and so made accessible to the whole body of the profession.

Fourthly, this fever is neither distinctly uræmic nor distinctly pyæmic; although having some of the characters of each, it has all the necessary characters of neither. Probably it begins in the nervous system. Probably the disturbance of the nervous system reacts, in the first instance upon the general metabolism of the body, and in the second instance, upon the secretory organs, beginning with the kidney. The effect upon the kidney may consist either in structural alterations of the kidney, invisible by the aid of our finest instruments of research, or, as it seems to me much more probable, in alteration of the constitution of the blood, the dynamic condition of its constituents in the renal vessels essential to the elaborative action of the secretory cells thereof; and lastly, the concurrence of these conditions may, and often is, enforced by septic re-absorption into the blood.

Fifthly, a more complete knowledge of this variety of fever and of the conditions of its origin, maintenance, and increase, may, at least we may hope, lead to a material diminution of its mortality; and, even now, by treating in a serious manner entrance upon catheter-life, by taking the precautions set forth by Sir Henry Thompson, by great temperance in the use of foods and stimulants, by rest, warmth, and by other general means upon which I shall not dwell, such mortality, I repeat, may be possibly considerably diminished.

Of these five propositions, the one at the present moment most open to attack is the fourth, wherein it is asserted that this fever is not distinctly and exclusively uræmic. For, in these days, it has come to pass that almost every writer of distinction adheres to the view of the uræmic origin and nature of catheter-fever, or the thing known under that and other names, and I am, as it were, left by myself very imperfectly armed to oppose it. I oppose it. I ground my opposition to the exclusively uræmic theory upon the fact that the phenomena of catheter-fever, not as they exist at a particular moment, but in their assemblage and in their progress together, are different from those of the ordinarily recognized uræmia. The duration is at once longer and shorter—longer than that of acute uræmia, and wanting its headache, its perversions of sensation, its changes in the urine, its convulsions, its profound coma; shorter than that of chronic uræmia, wanting its neuralgias, its recurring headaches, its defects of sight, its itchings of the skin, its vomiting, its characteristic breath, its attacks of dyspnœa and palpitations, its painful nervousness, its low temperature. Furthermore, the urine of the catheter-fever—of this variety, at least, of catheter-fever — is always loaded with micro-organisms of various kinds; and although it is deficient in urea, and contains more or less albumen, it deposits no tube-casts, and it is capable of amendment. Lastly, while chronic uræmia issues in death, catheter-fever may issue—sometimes does issue—in complete recovery. Sir Henry Thompson may remember that I saw with him a distinguished nobleman, not far from Oxford Street, who had to make an entrance upon catheter-life; and he very justly and wisely warned the relations that it was a serious procedure, and that he might suffer constitutional disturbance after the starting of this mode of life; and it happened that he did suffer this constitutional disturbance. It happened, indeed, that he had a mild variety of this fever which I am describing, and that it continued between a fortnight and three weeks. Eventually, with Sir Henry Thompson's help, he recovered; and I think I may say now—five, six or seven years afterwards—he is in good health at an advanced age. Except in its long duration, in its occasional rigors of great severity, and its exceptional clearness of mind, the phenomena of what is called endocardial fever resemble more nearly those of the fever which I have called for the moment catheter-fever than any other malady with which I am acquainted.

Two questions of a practical kind arise out of this study of the history of catheter-fever. Seeing that by almost universal assent the fever originates at least in a disturbance of the nervous system, and seeing, furthermore, that in the cases accessible to me, at least, there is no account of the fever following in cases where narcotics or anæsthetics have been used, may it not be that the fever is capable of being cut short by the administration, on entering upon habitual catheterism, of narcotic or anæsthetic remedies? I remember that my great master, Syme, in Edinburgh, with a reason which his instincts very often knew better than his understanding, invariably gave his patients, whom he had to catheterize, opium, frequently a grain or two from the very beginning, and I must also add that he was singularly free from catheter accidents. The second question is this: Assuming the presence of the fever, and seeing that quinine has signally failed in controlling it, what drugs are to be employed on such occasions, and what is the sort of hygienic management to be followed, especially in respect of food and alcohol, which are so variously used on such occasions, in order that the fever may be brought, if it be possible, to a successful ending?

Such, then, are the main conclusions

which I have drawn for my fragmentary studies of this form of catheter-fever. I know that they are incomplete; I even fear that they may be inaccurate; but however this may be, I submit them to your consideration, and I console myself with the reflection that they may call forth the ripened experience of practical surgeons, who, in this matter, furnished with a larger knowledge and a more practiced judgment, may be able not only to correct me where I am in error, and to confirm me in any small point where I may have caught the truth, but to supply us with the very knowledge which at this juncture we need and ask.

WESTPHAL ON A DISEASE RESEMBLING CEREBRO - SPINAL SCLEROSIS.—Westphal (*Archiv. f. Psych.* Bd. xiv., p, 87) reports with great fulness two cases which presented the symptoms of multiple cerebro-spinal sclerosis. There was paresis of the muscles of the extremities, the trunk, and the neck, with rigidity of the muscles, and as a result of this, delayed and difficult movements; there were tremors when voluntary movements were made; there was "scanning speech" (in one case only, in the other it resembled rather the speech found in bulbar paralysis); the sensory disturbances were slight and transient; the patellar reflex was evocable, and also the paradoxical contraction; and there were headache, vertigo, apoplectic and hemiplegic attacks, and mental symptoms, particularly dementia. The absence of nystagmus would be regarded by some as an important omission from a case of multiple cerebro-spinal sclerosis, but Westphal's experience is that it is frequently absent. In its place there was an abnormality in the movements of the ocular and facial muscles; the muscles responded slowly to the stimulus of volition, and the movements when commenced were slow in execution: This was well seen in the length of time it took to open and close the eyes. Both cases terminated fatally after a very chronic course. In one case a careful examination failed to reveal any cerebro-spinal lesion, in the other the cerebral pia mater was somewhat œdematous, the convolutions small, and the white matter of very firm consistence; but there was not any sclerosis, in the ordinary acceptation of the word. Westphal concludes from these two cases that there is a general neurosis (which, for want of a better name, he calls a pseudo-sclerosis) which cannot be distinguished, either in its symptoms or its course, from the disease known as multiple cerebro-spinal grey degeneration, or sclerosis.

Westphal adds some remarks on the so-called paradoxical contraction of a muscle brought about by its relaxation, the approximation of its points of origin and insertion. It is best seen when the foot is passively flexed; the foot remains flexed and adducted, owing to contraction of the tibialis anticus, and it may continue flexed for half an hour. In one of the cases reported in this paper, the paradoxical contraction was observed not only in the tibialis anticus, but in the flexors of the knee-joint, in the supinator longus of the forearm, in the muscles of the wrist and finger-joints. This condition is due to a change is the muscular tonus, and bears an analogy to Thompson's disease, but we as yet know very little about it.—*Brain.*

PRACTICAL APPLICATION OF CEREBRAL LOCALISATION.—Dr. T. O. Summers contributes the following communication to the *Southern Practitioner*: "A little child, five years of age, received a blow or had a fall upon the head about two years ago, producing no external lesion as far as could be observed, but resulting in complete aphasia. After the injury he could only make idiotic noises, though he understood all that was said to him. From this time he developed as a left-handed child. The father applied to me for relief. I was satisfied of depression, and located it at the third convolution of the anterior lobe of the cerebrum on the left side, led to this conclusion by the aphasia and left-handedness of the child. I removed the disc of bone from a point just superior to the temporal ridge, anterior to the coronal suture as it bends forward to cross the ridge. This disc covered a portion of the ascending frontal and middle frontal convolutions, and its posterior border rested over the fissure of Rolando, close up to the ascending parietal convolution. Of course the diploic structure was rudimentary in a child of that age, but what was to be the inner table was clearly depressed by a green-stick fracture. After the operation the child articulated clearly, crying out, 'Turn me loose, doctor, my head's bleeding.' From that time on to the present day he has talked well, and has recovered his intelligent expression and manner. The interest in this case lies in the apparent practical demonstration of the location of the centre of speech in this portion of the brain, and on the left side in right-handed persons, as contended by some neurologists."

MEDICINE.

ACUTE PNEUMONIA.—The report of the Collective Investigation Committee on pneumonia, although only provisional, contains a great deal of interesting matter, and is based on an analysis of 350 cases. The general result of the pathalogical inquiry is thus surmised: "We think this evidence before us is insufficient to support the doctrine that pneumonia is a specific fever, whose chief local manifestation is in the lung. Like other respiratory diseases, we find it prevailing in certain states of the weather; and, apart from all else, the great regulator of its frequency is season. It may be taken for certain that it confers no protection upon the individual, but rather an increased liability to future attacks. It appears to have no direct association with any specific or conveyable disease, and its near alliance with tonsillitis is in striking contrast with its unfrequency in connection with diphtheria. Instances of pneumonia undoubtedly occur, which are apparently 'pythogenic;' but those which have this origin are not otherwise separable, so far as we see at present, from others which are obviously due to exposure. Epidemic pneumonia, as judged of by the cases we are now reporting on, is in part explained by atmospheric conditions, and in part by other agencies generally prejudicial to health."

With the moderate and cautious tone of this report most persons will cordially concur; but the prevalence of erysipelas in connection with 66 out of 350 cases is almost lost sight of. It may be well to recall the classification of infectious pneumonia given by M. Germain See; 1, malarial pneumonia; 2, erysipelatous pneumonia; 3, typhoid pneumonia. The first of these factors finds no mention in the report; the second has the striking reference already given; while typhoid fever prévailed in the same district in only 29 cases. The typhoid pneumonia of Professor See is, in his opinion, typhoid fever finding its chief expression in inflammation of the lungs. The evidence of contagion is confined to twelve cases; in one case, Dr. Lane, of Bishop's Castle, writes of a wife who was believed to have taken pneumonia from her husband: "I have no doubt that the patient's attack was due to direct infection, she never having left her husband's room, except for a few moments, from the time of his seizure to his death." On this point, additional evidence is much wanted, and, it is to be hoped, will be forthcoming.

One of the most striking facts in the report is the immunity from fatal pneumonia enjoyed by total abstainers. Among this class the deaths were 11.12 per cent.; among temperate persons, 18.4 and among the intemperate, 40.5; while, in those suffering from insufficient food, the rate was 26.6. The total mortality in the whole series of cases was 19.4, which strikes us as being very much higher than we can regard as satisfactory.

There is, at the present, too much complacency with our treatment of pneumonia; and there is a very ill-founded, but widely spread impression, that, since the abandonment of venesection, and the employment of expectant treatment, there has been a very great diminution in the mortality from this disease.

That this belief is a mistaken one, is proved by reference to the old statistics, which show that, with excessive venesection, the mortality was from 1 in 3.5 (Louis), 1 in 5 (Dietl), to 1 in 6.3 (Grisolle). With large doses of tartar emetic, out of 648 cases treated by Dasori, 143 died, or 1 in 4.5; with the same drug, Dietl lost only 1 in 5.2; and Laennec, only 1 in 10. It is thereforoe bvious that, if the death-rate in these cases represents fairly the results of modern practice in this country, we have no cause to congratulate ourselves.

In considering the mortality from pneumonia, the age of the patient is of such importance, that no conclusions are of any value which do not take it into account; but the analysis under this heading does not explain the mortality. Grisolle laid it down as a rule that under 30 the deaths were 1 in 14; in this table there were 185 cases under 30, with 16 deaths, or 1 in 11.5. Bennett found the average death-rate in the army and navy, under the old plans of treatment, to be 1 in 13. We may assume these to have been healthy men in the prime of life. In the present table there are 125 cases between 20 and 40, with 18 deaths, or 1 in 7.

Our object in calling attention to these figures is to awaken practitioners to a sense of the fatality of pneumonia. We believe there is a too general impression that it is a benign disease, and, the gravity of cases is only recognized when the serious effects of fatal lesions manifest themselves. Jurgensen has pointed out that the tendency is to death by cardiac failure, and we are now quite well aware of the influence of high temperature on the muscular wall of the heart. Jurgensen's teachings has hitherto found few followers in this country, but, with a mortality of one in five, we are bound to reconsider the basis of our practice.

We cannot escape the responsibility for the lives of our patients, if we permit our prejudices to stand in the way of the application of reasonable principles of treatment, and we trust to see the danger of the pneumonic fever more widely realized, and made a vital principle of practice. This idea once grasped, the means used will be efficient, and the treatment will be made the test of this efficiency.

The committee is anxious to obtain 1,000 cases by the end of the year on which to base a complete report. A number of fresh cards have been issued, and it is hoped that every member will aid in the work. If each member of the Association would fill up one card annually, the success of the collective investigation organization would be certain.—*British Medical Journal.*

Kirchhoff on Hemiathetosis.—Kirchhoff (*Archiv. f. Psych*- Bd. xiii., p. 582) reports a case of hemiathetosis of the left side appearing suddenly in a patient of intemperate habits, suffering from cardiac dilation and cirrhosis of the liver with ascites and œdema. The case differed from ordinary cases of athetosis in that the movements were not confined to the hand and foot, but were participated in by the eyes, jaw, and face. After a time slight athetoid movements appeared in the right hand. There were no sensory symptoms, and only transient and inconsiderable paresis of the left hand. The patient died three weeks after the appearance of the hemiathetosis, and a careful *post mortem* examination failed to show any coarse brain lesion or any miliary apoplexies or embolisms. Delicate false membranes were found in the arachnoid sac of each side, but these Kirchhoff refuses to consider as the cause of the unilateral athetosis.—*Brain.*

Flatten on Diabetes Insipidus.—Flatten (*Archiv. f. Psych.* Bd. xiii., p. 761) records a case of diabetes insipidus associated with paralysis of the external rectus of the left eye and paresis of the same muscle of the right eye. The diagnosis was a focus of softening a little below the nucleus of the left abducens nerve, destroying the root of the nerve and extending across the middle line towards the right abducens. Gayet has reported a case of diabetes insipidus with paralysis of the right abducens, and Kaemnitz a case of diabetes mellitus with paralysis of the same nerve.—*Brain.*

MISCELLANY.

A New Battery Solution.—By Carl Seiler, M.D., in *Med. and Surg. Reporter.*

Every one who has had much to do with batteries for medical purposes, and for the galvanocautery, in which bichromate of potash solution is used in connection with sulphuric acid as the exciting fluid, has been annoyed by the formation of ruby-colored crystals. These crystals, which are very hard and insoluble in cold water, cover the surface of the zinc plates, and are formed in the interstices of the carbons, besides forming a thick and hard crust at the bottom and at the sides of the cup containing the fluid. They are more readily formed in cold weather than during the warm season, and can be dissolved only by boiling water. Being non-conductors of electricity, they increase the resistance of the carbons to such an extent as to materially interfere with the proper action of the battery, and thus often only a feeble current is obtained from a powerful instrument. These crystals, commonly called chromo-alum, are, in reality, a double salt of chromo-sulphate of potash, the combination being favored by the electric current and by exposure of the elements of the battery to the air.

The reader, not well versed in the chemistry of batteries, may ask, Why not leave out the bichromate of potash, and only use a solution of sulphuric acid and water? The answer to this question will explain the chemistry of the new solution. When two elements, say a carbon and zinc plate, are placed in a jar containing acidulated water, and are above the solution connected by a wire, an electric current is established, which decomposes some of the water into its constituents, hydrogen and oxygen. The former, together with the acid, enters into combination with the zinc, while the oxygen, in the form of small bubbles, adheres to the surface of the carbon, and being a non-conductor of electricity, soon stops the action. This is termed polarization. In order to prevent this, or at least reduce it to a minimum, a substance is added to the solution, which has a strong affinity for the oxygen, and thus prevents the coating of the carbon plate. There is, perhaps, no better deoxidizer known than chromic acid, and as it forms a large part of the cheap commercial salt bichromate of potash, this is added to the sulphuric acid and water to form the battery solution. It is, therefore, the chromic acid which acts, being set free from its combination with the potash by tbe action of the sulphuric acid, and we thus have a solution of sulphate of potash and of chromic acid, with a surplus of sulphuric acid and water, in our existing fluid. If pure chromic acid instead of bichromate of potash is used in making the fluid, no crystals can be formed, since no potash is present; but the crystallized chromic acid is a very expensive article, costing nearly two dollars per pound at wholesale rates. A crude non-crystallized chromic acid can, however, readily be made, and when added to the sulphuric acid and water will give excellent results, the plates remaining free from all crystals, and the fluid retaining its full force to the very last. A fluid made according to the following formula has given me great satisfaction in my galvano-cautery battery, and it can be used, diluted one-half with water, for the ordinary medical batteries:

Bichromate of potash,	2 pounds.
Hot water,	½ gallon.
Sulphuric acid,	½ gallon.

Dissolve the bichromate of potash in hot water, and when cool add to it the sulphuric acid. This should be mixed in an earthen vessel, as the sudden evolution of heat is very apt to break a glass bottle. When cold, place the mixture, which will be quite thick, in a glass funnel, the tube of which is partly closed with asbestos, and drain off all mother liquor, which is a saturated solution of sulphate of potash. Then redissolve the parts remaining in the funnel in 1½ gallons of water, and add to it 2 quarts of sulphuric acid if the fluid is to be used for the galvano-cautery battery, but if it is for the ordinary medical battery 1 quart of sulphuric acid is sufficient.

HYPNOTISM. — Tamburini and Sepilli (London *Med. Record*) have investigated hypnotism from a purely objective side, studying the modes of producing the phenomena, the various stages exhibited, respiration and circulation. Following Charcot and Richet, they divide the phenomena into three stages. According to the present authors, the first stage is the lethargic; the second, the cataleptic; and the third, or most intense degree of the phenomena, is the somnambulistic. The authors have given their attention more especially to the first two stages. It should be noticed that in some patients the lethargic stage occurs primarily; in others the cataleptic. The hypnotic sleep can be induced in one of various ways: by steadily fixing the eyes, by a gentle and prolonged noise, or by slight and frequently repeated tactile sensations. The lethargic state is characterized by exaggerated muscular contractility, exaggerated tendon-reflexes, and paradoxical contraction of Westphal. The respiratory movements are deeper and more frequent, and the circulation shows increase in volume in the peripheral vessels. There is also hyperæsthesis. The cataleptic state, on the contrary, exhibits plastic flexibility of the limbs, diminished tendon-reflexes, diminished sensibility, slow and superficial respiration, and contraction of the peripheral vessels. The somnambulistic condition is marked by general and lasting contracture, which does not yield either to the stimuli or to the action of the antagonistic muscles. The subject can, by suitable stimuli, be passed from one stage into another; and even one half of the body may be thrown into the cataleptic state, the other half remaining in the lethargic condition. For example, let the hynotic sleep be induced by gentle pressure of the eyeballs. The patient falls into the lethargic condition with exaggerated muscular contractility. Now, if one eye be opened and exposed to a strong light, that side becomes cataleptic. One of the most curious phenomena is that the repetition of the stimulus that gave rise to any particular stage of hypnotism restores the patient to his original condition (that is, to the condition in which he was when the stimulus was previously applied). Thus, to remove a person to the hypnotic state, it is only necessary to repeat the stimulus that excited the condition; the different effect depending, according to the authors, on the different conditions of the nerve-centres at the times of the different applications. In regard to the interpretation of hypnotism, Tamburini and Seppilli do not think that the phenomena are due to the removal of the inhibitory influence of the higher centres. On the contrary, they believe that the diverse phenomena of the lethargic, of the cataleptic, and of the somnambulistic states are only so many various manifestations of the increased excitability of the centre motor apparatus. The investigations made by these authors are worthy of attention, though their belief in magnets and metals indicate that their conclusions should be received with caution.—*Med. Age.*

Tears of Blood.—This rare phenomenon, the reality of which has often been doubted, seems, however, to occur under certain circumstances. Damalix has published an interesting paper on this subject in the *Archives d' Opthalmologie.* He was led to study it by the observation of a case in M. Panas's wards. The patient, a young hysterical girl, said that she had often noticed a flow of blood from her eyes, and spots of blood on her handkerchief after wiping them. For some time the hæmorrhage occurred every night. A careful examination of the eyes showed nothing abnormal, but there were photophobia, facial neuralgia, and considerable blepharospasm.

This case, as M. Damalix himself says, cannot be considered as conclusive, in spite of the probable veracity of the girl and her parents, as the hæmorrhage was never seen by him. But there are on record some observations which do not leave room for doubt. In a case of Hauser, and in another of Brun, the observer could actually see the blood flowing from the eyes like tears; there was no possibility of trickery and microscopical examination of the fluid showed that it was really blood. As for the diagnosis, the name blood-tears must not be applied to the various forms of hæmorrhage caused by some organic lesion of the mucous membrane, such as small polypi, etc. The true form has nothing to do with any visible lesion, and the course of the accidents is remarkably irregular. Sometimes there are no premonitory signs, the blood appearing without effort or pain; in other cases, the patient feels for some time pain in the forehead, or at the root of the nose, or it may be, a feeling of tickling and heat in the lids, which disappears when the blood begins to flow. The amount of blood lost varies from a few drops to a wineglassful; the flow never lasts more than a few minutes, is always intermittent, and generally coincides with other hæmorrhages in the skin or mucous membrane, or on the contrary, with *suppressio mensium.* A study of the etiology of the disease shows that it is most frequent in hysterical women suffering from anæmia or hæmophilia. —*British Medical Journal.*

Statistics of French Medical Practitioners.—*Le Progres Medicale* of December 1st furnishes the following analysis of the quinquennial report which the Minister of Commerce has just published:

	1876	1881
Doctors of Medicine .	10,743	11,643
Officers de Sante . .	3,633	3,203
Pharmaciens	6,232	6,443
Herbalists	983	982
Midwives	12,847	13,403

The number of communes in France is 36,097; in these 3,645 doctors alone practice; in 1,914 Officiers de Sante alone practice; in 733 both Doctors and Officiers de Sante practice, while in 29,795 there are neither doctors nor officers.—*Medical News.*

Rendering Rubber Gas Tubing Odorless. — The Mohrisch-Schleisher *Gewerbhalle* recommends for deodorizing rubber gas tubing, that equal volumes of 36 per cent. alcohol and good linseed oil be shaken together to form a homogeneous mixture, and the moderately-stretched tube rubbed with a small rag, on which has been dropped a little of the mixture, until quite dry. The operation is to be repeated three or four times at intervals of a few days. The flexibility or color of the tube is said not to be impaired, while the rubber is rendered gas-tight.

About fifty persons in the town of Thorn (Prussia) have been attacked by trichinosis.

Mr. Lister has been offered and has accepted a baronetcy.

THE CINCINNATI
LANCET AND CLINIC
A Weekly Journal of
MEDICINE AND SURGERY,
ISSUED EVERY SATURDAY.

TERMS, $3.50 PER ANNUM IN ADVANCE.

☞All letters and communications should be addressed to, and all checks, drafts, and money orders made payable to
DR. J. C. CULBERTSON,
EDITOR AND PUBLISHER,
281 W. 7th STREET, CINCINNATI, OHIO.

SUBSCRIBERS TO THE LANCET AND CLINIC who have not already remitted their subscription will confer a favor on the publisher by promptly doing so.

Cincinnati, January 26, 1884.

The Week.

THE RELATION OF THE STATE TO THE PRACTITIONER OF MEDICINE has never been very clearly defined in this country. A number of medical gentlemen may obtain from the State a charter granting them the privilege of conferring the degree of Doctor of Medicine. This degree will then legally entitle the M.D. to practice medicine and surgery in this State without further examination. Now, in case of established institutions, conducted by reputable men, this may be sufficient. The character of the gentlemen at the head of the college is a sufficient guarantee of the quality of their work and that their advertised requirements will be strictly adhered to. But a college (?) may be chartered in this city, no lectures need be given, no stated period of study need be required, no test of scholarship need be applied, yet the degree of M.D. may be conferred with as much ceremony as if it really meant something. The title of M.D. does not by any means indicate that the bearer is qualified to practice medicine.

There are two remedies for this state of things, viz.: The State could exercise a direct control over the colleges; or, license to practice medicine could be granted only by an examining board without reference to any of the Colleges. This last proposition seems to us the only practical solution of the question. It is about the conclusion reached in the State of New York where the question has been for some time agitated.

The Pharmacists of Ohio are taking this same ground and are energetically pushing it to a satisfactory conclusion.

The following is a synopsis of the Pharmacy Bill now before our State Legislature:

If this bill becomes a law, any person not a registered pharmacist, may own a pharmacy or drug store, if he shall have in his employ and place in charge thereof, as manager, a registered pharmacist.

Nothing in this bill shall apply to, or interfere with any physician, supplying his patients with medicines, or making or selling patent medicines, and the usual domestic remedies, by any retail dealer, or with the exclusively wholesale business of any dealer.

The Ohio Board of Pharmacy shall hold three regular meetings in each year, and as many more, at such times and places, as may be necessary; make annual reports of its proceedings including an account of all moneys received and expended; and forward a list of all persons registered to the Secretary of the State and to the Ohio State Pharmaceutical Association; keep a book of registration open at Columbus, and register the names and places of business of every person entitled to registration, as pharmacist or assistant pharmacist, or renewal thereof, after the payment of the fee for such registration or renewal of registration.

Every person owning a drugstore, or a manager of one, at the time this bill becomes a law, or a person of the age of eighteen years, who, at the time, has had the three years experience as a clerk required by the bill, must, within three months after the notice provided in the bill, register as pharmacist or assistant pharmacist, in order to continue in the practice of his profession as pharmacist, or assistant pharmacist. It shall be the duty of the board, upon proof of such fact, and upon payment of the fee for registration, to register such person as pharmacist, or assistant pharmacist, without examination.

Every person who, after this bill becomes a law, desires to engage in the practice of pharmacy, as pharmacist, or assistant pharmacist, shall be examined by the board and, if found competent and qualified, shall register in order to engage in the practice of pharmacy.

It shall be the duty of the board to examine such person, and register him, if found competent and qualified; upon the payment of the fee for registration.

A proprietor, manager or clerk registering without examination because he was in business before the bill became a law and a person registering after its passage, because upon examination he has been found qualified, have the same legal standing as pharmacist, or assistant pharmacist, as the case may be.

Every registered pharmacist, or assistant pharmacist, who desires to continue the practice of his profession, shall, annually thereafter, whilst in such practice, renew his registration.

The board shall receive as fees for registering a person as pharmacist, five dollars, and as assistant pharmacist, two dollars. For renewal of registration, as pharmacist, one dollar, and as assistant pharmacist, fifty cents.

The Secretary of the board shall receive a salary which shall be fixed by the board, and his traveling and other necessary expenses incurred in the performance of his official duties; and the other members of said board shall receive five dollars for each day actually engaged in the discharge of their official duties, and all necessary expenses incurred by them in discharging such duties. To be paid from the fees and penalties received by the board. All moneys received in excess of said expenses shall be held by the Secretary, to meet further expenses of the board—he giving such bond as the board shall from time to time direct.

J. A. Nipgen, Chillicothe, O.,
I. N. Reed, Toledo,
T. L. A. Greve, Cincinnati,
Chas. Ludlow, Springfield,
Chas. Huston, Columbus,
Committee.

Should this bill become a law it will place the pharmaceutical profession of this State far in advance of the medical profession. No venial diploma from a so-called college of pharmacy can deceive the Ohio Board of Pharmacy. The public will be protected, as far as possible, from ignorant pharmacists. How long before they will receive a like protection from ignorant doctors?

New Medical Journals.—This month brings to our desk the usual number of new medical journals. They all start in hopefully and several of them seem to be gotten up with considerable care. Especially is this the case with the *Æsculapian*, a monthly journal edited by Edward J. Bermingham, A.M., M.D., and published by the well and favorably known firm, Bermingham & Co., New York. It is beautifully printed and its contents are of a high order. Also we must mention the *Kansas City Medical Record*, the initial number of which is quite creditable to Western journalism. The *Archives of Pediatrics* has the appearance of stability and endurance in the race for success.

FOR SALE — Residence and Practice. If application is made within the next two weeks, I will dispose of my residence and a valuable professional practice to a reputable physician desiring a location in one of the best places in Southern Ohio, Address P. O. Box 321,
New Vienna, Ohio.

Dr. John B. Hart, Class 1880, Medical College of Ohio, died of pulmonary tuberculosis January 19, 1884, at the home of his parents, Poplar Plains, Ky. Dr. Hart received Prof. Dawson's medal for bandaging in the Class of 1879-80. He was a promising young physician.

Academy of Medicine.—Dr. William Judkins will make some remarks on Anuria, illustrated by physiological demonstrations, at the next meeting, 28th inst.

At the next meeting of the Cincinnati Medical Society Dr. Eichberg will report a case of complete transposition of the viscera.

A telegram in a morning paper states that trichinæ has been discovered in large quantities in some home-made sausage in Fulton County, Illinois. Three members of a family ate some of the uncooked sausage and are reported dangerously sick. Will people never learn that it is only safe to eat pork after it is well cooked? The old Jews were quite right in placing it among the unclean meats.

Bibliography.

AN ENCYCLOPÆDIC INDEX OF MEDICINE AND SURGERY. (1)

The object of this work, we are told, is to place before the profession a complete encyclopædia of medicine of a size suitable for reference, the price being at the same time moderate. While it is true, that in many of the systems of medicine now in use, the aim of the authors seem to have been to stretch "out volume after volume" we must not neglect the other even more important objectionable extreme, that is, the endeavor to condense too much the subjects considered.

The principles and practice of medicine and surgery cannot, at the present time, be to any extent condensed. The science of medicine and surgery has advanced too much for that. The work we are considering belongs to neither of these classes. It is a volume of more than nine hundred closely printed pages. The articles comprise all the leading subjects of medicine and surgery, and are treated purely in a practical light to the exclusion of what is speculative and theoretical.

With reference to the text of the articles we want no better recommendation than the names of the gentlemen who have written them. The list of contributors including the names of many of the best known men in America and some foreigners. The greater part of the articles appearing have been written especially for this work. A few, however, have been previously published. In every article the name of the author is published.

The arrangement of the subject matter is alphabetical and the titles are printed in prominent type for ease of reference. We would expect that in such a work as this the style in which the different authors handle their subjects would be markedly different. This would occur in some cases on account of individualities of style, in others on account of the different ways in which they understood their tasks. Some subjects are treated in a very entertaining style, others, on the other hand, owing to the effect of condensation, are really unpleasant to read. This, however, is of minor importance in a book of reference.

The book is behind the times in some instances. Koch's bacillus of tuberculosis is not mentioned, and, in discussing the etiology of some of the infectious diseases, the germ theory hardly has proper notice given it.

The scientific practitioner of medicine must have more exhaustive works for leisure reading, but for hasty reference a book of this sort is invaluable. As said before, the eminent record of the numerous contributors and the cheapness of the book render it one which as a work of reference we all can and ought to possess.

HANDBOOK OF GENERAL MEDICINAL TECHNOLOGY. (1)

This little work embodies within it a clear and accurate description of the "Naming of Medicines," its "Forms for Administration" and the "Quantity to be Used."

The chapters on "Modes of Medicating" and "Dosage" are clear and comprehensive. The technicalities of prescription writing are discussed at full length and are made to include so much of the elements of Latin as are necessary to the art.

Prescribing according to the metric system is also treated of in full as the importance of the subject deserves, comparing as it does with the weights and measures of the apothecary system in the most simple and concise manner possible.

We especially recommend the work to undergraduates and those who have never given "medicinal technology" due consideration.

QUARTERLY COMPENDIUM OF MEDICAL SCIENCE.

We are indebted to the publishers for a bound copy of this valuable periodical. One can hardly realize the amount of material contained in the volume until the index has been seen. It contains in a condensed form everything advanced on this subject during the year 1883. Drs.

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[1] Edited by Richard J Bermingham, A.M., M D. New York; Bermingham & Co. 1882. Price, cloth $5, sheep $6.

[1] By Edward Curtis, A.M., M.D., Professor of Materia Medica and Therapeutics, College of Physicians and Surgeons, Medical Department of Columbia College, New York.

Brinton and Edwards are to be congratulated on the subject matter. Published by D. G. Brinton, 115 South 7th Street, Philadelphia, Pa.

QUIZ-COMPENDS ? MATERIA MEDICA. (1)

This is volume six of the ? Quiz-Compend ? series. It is intended for an aid to medical students and as a brief review for practitioners. It is quite up to the other books of the series.

INTERNATIONAL REVIEW OF MEDICAL AND SURGICAL TECHNICS: Official organ of the American Association of the Red Cross. (2)

This is a unique enterprise in American Medical Journalism, and, judging from the initial number, is destined to fill an important niche in our literature. Besides a variety of well-selected matter, abstracted from other journals, we find in this number a full statement of the aims and purposes of The American Association of the Red Cross. Our readers can not do better than write to the publishers for a copy.

PATHOLOGICAL ANATOMY. (1)

We are in receipt of Nos. 6, 7, 8, 10, 11, 12, and 13 of this elegant work. The plates are artistically beautiful. It is a fit companion for the author's Atlas of Human Anatomy, which is paying it a high tribute of praise. The case reports are concisely given and the symptoms explained by pathological conditions afterward discovered. The careful perusal of this work, both text and plate, would throw a flood of light upon many an obscure case. A more lengthy review will be given when the complete series, as far as published, is at hand.

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1 A Compend of Materia Medica and Therapeutics, with especial reference to the physiological action of drugs. For the use of medical, dental and pharmaceutical students and practitioners. Based upon the Sixth Decennial Revision of the U. S. Pharmacopœia. By Samuel O L. Potter, M.A, M D. Philadelphia: P. Blakiston, Son & Co., 1012 Walnut street. 1883. Cincinnati: Robert Clarke & Co. Price $1 00.

2 Quarterly. Edited by Joseph H. Warren, A.M., M D., Charles E Warren, M.D., and William E. Smith, M.D. Boston, Mass.

1 Pathological Anatomy; Pathology and Physical Diagnosis. A Series of Clinical Reports comprising the Principal Diseases of the Human Body. Arranged in one hundred full page illustrations and one hundred pages of text. By J. A. Jeancon, M.D., Author of Atlas of Human Anatomy. Cincinnati: Progress Publishing Company, Pike's Building. Complete in 25 parts. Price $1 00 each part.

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Original Articles.

ON SOME POINTS IN OCULAR THERAPEUTICS.

Remarks by the President, Dr. W. W. Seely, Delivered before the Academy of Medicine, January 7, 1884.

[Reported by W. H. Wenning, M.D., Secretary.]

In a general way the function of the specialist seems to be threefold: to advance the department he represents; to, as far as possible, work out certain foundation principles underlying the therapeutics of his special calling; and then, to use his best endeavors to disseminate such knowledge and principles. There are certain territories that are, of necessity, the common property of the general practitioner and the specialist. There are, as truly, certain other territories that must be occupied by the specialist, almost, if not quite, to the exclusion of the general practitioner, such as fundal and refractive, largely because of the time and apparatus required for acquiring a knowledge of them, and for their investigation. I fancy the ophthalmoscope, affected a few years ago by a few practitioners, has well nigh rusted out. The fundus oculi may be ground from which the specialist can see into the realm of the general practitioner, but it will probably never become what we could term common property. I am quite aware that even specialists a few years ago (possibly still) encouraged the idea that the general practitioner should familiarize himself with the use of the ophthalmoscope, a study as deep and tedious as medicine itself. My views and teachings have always been that general practitioners should spend what time they have in regions which I think far more properly belong to them, and which they are undoubtedly becoming more and more possessed of, viz: diseases of the external tunics, conjunctiva, cornea, inclusive of the iris. These are the troubles to be seen with the naked eye, and, too, embrace two-thirds of all ocular troubles, and, further still, are largely acute, and fall, almost of necessity, first into their hands.

It may seem superfluous to mention the subject of iritis to a body like this, but the members will bear in mind that the destinations of our coals are not all Newcastles. Iritis, as you all know, is, par excellence, a disease that is liable to fall, first, into the hands of the general practitioner simply because he is the one in charge of the general trouble most likely to set it up, viz: syphilis. Everyone knows that a ciliary injection arising in the first months of a syphilitic is a suspicious phenomenon, and should put him on his guard. This is true in any case of the sort presenting during the period of life of the patient from eighteen to thirty. It requires, often, but a very short time for enough lymph to be thrown out to bind the iris to the lens capsule, and to permanently damage the vision. Hence, if syphilis is known or not to exist, no time should be lost in finding out if the trouble is really iritic. Fortunately the fundamental treatment of this trouble finds only unanimity among specialists. The principle is *mydriasis* and the medicament to produce it is atropine. Many other mydriatics exist at present, but nothing has been discovered to in any way supplant atropia.

What is needed in iritis is a mydriatic, first, with powerful dilating power; second, great persistency of action. Both of these qualities are possessed in a high degree by atropia. I assume that to say iritis means atropine; but even yet I find many fail in just that property the atropia excels in, viz: *persistency*. They may begin well enough, but do not persevere in its use. Once get a pupil widely dilated with a four-grain solution of atropia (four grains to the ounce of water), and keep it so by four or five instillations a day, till all perikeratic redness is gone, and no damage will result from the inflammation. If every case could be seen before adhesions occurred, iritis would be robbed of its terrors.

The next most important class of cases extremely liable to consult, first, the general practitioner are the *glaucomatous*. Of course they are far less numerous than the iritic, but their early recognition is of the extremest importance. I can only mention some general diagnostic points, and touch, in the most reserved manner, on the therapeutics. Probably everyone knows that, while specific iritis is eminently a disease of early manhood and womanhood, glaucoma, on the contrary, belongs to advanced life; so that an acutely inflamed eye in a person (especially a woman) beyond forty, and no ulcerative corneal trouble, should immediately suggest glaucoma, and that, too, of a form needing immediate attention. Such cases are very liable to be mistaken for a violent conjunctival or iridal inflammation. While the last decade has added to the sum of our general knowledge of the subject of glaucoma, its therapeutic contributions are of such a character as to compel the greatest reserve in any general discussion of their application or value.

While there can be no question that the fundamental treatment of glaucoma in its usual forms *is the reduction of tension*, the methods of accomplishing this should be fairly understood by the profession. If we grant a *correct diagnosis* there is no question but we now possess a remedy competent to afford, at least, temporary relief. *That atropine is contra-indicated in all glaucomatous conditions* is a fact that has, for at least a decade and a half, been the common property of the general and the special practitioner. Clinical phenomena teach us, if they are competent to teach anything, that atropine (and perhaps all mydriatics) *either increases, or tends to increase, intra-ocular tension.* Clinical phenomena likewise teach us that the active principle of the calabar bean eserine *diminishes intra-ocular tension.* Hence we find in this remedy that which should commend itself to the general practitioner in the cases in question, if, as I stated, there is no question about the diagnosis.

Our enthusiasm in the beginning led us to hope that glaucoma could be often *cured* by eserine; but more experience has shown that the most that can be said is, that it can only postpone the full development but rarely cure the disease. That the former even can be accomplished is a marvelous advance. Often such cases assume such violent and prostrating forms of the disease as to utterly incapacitate the patient from leaving the bed, and the use of eserine would prevent the eye from being utterly and hopelessly lost till an iridectomy could be made.

I have only one practical suggestion to make in regard to the use of eserine, not only in glaucomatous cases, but wherever it is employed in eye diseases, and that is *the use of a four-grain solution, thoroughly instilled, once* a day, *and no oftener.* The general view is, eserine must not be trusted to permanently cure glaucoma, *only to tide the case over* till it can receive special attention. This statement is made with a thorough knowledge of the fact that eserine has cured permanently cases of glaucoma.

When we come to discuss inflammations of the cornea, which form so large a proportion of all ocular troubles, we do not find the same unanimity of opinion among specialists, partly depending upon the different characters assumed. My object will be, if possible, to lay down some general plans, and give the grounds on which they are based.

[Here diagrams showing the pictures presented by corneal affections were explained.]

After our study of the pictures of what takes place in the various forms of corneal inflammation, we are struck by the evident identity of the processes, so that, given the picture of the simplest, those of the others are readily drawn. Nature was our first teacher as to a favoring condition in such of the corneal affections as lead to perforation, in that, when the perforation occurs, the process may rapidly cease. So marked was this fact that the process has for years been artificially imitated by puncturing the cornea in corneal ulcers and abscesses, and evacuating the aqueous humor—in a word, reducing the intra-ocular tension. There can be no question but that reduction of intra-ocular tension is a favoring condition in the severe forms of corneal inflammation; and from my study of the process underlying all the various forms, and from a vast number of paracenteses in the mild forms as well as the severe, I am thoroughly convinced that it is a favoring condition *in all the forms.*

If such is really the case, a fundamental principle may be laid down for a general plan of treatment. Formerly we reduced intra-ocular tension by two means: First, by paracentesis of the cornea; second, by using atropine. I have already stated my reasons for denying to atropine the power to reduce the ocular tension, and paracentesis is out of the question for the general practitioner.

If the drawings illustrate with even diagrammatic truthfulness the process taking place in the cornea, anything that will check the perverted or hyper-nutrition will, so far, be an advantage. Hence, the contraction of the blood and lymph vessels in the vicinity would seem to be indicated; and I have already shown that a reduction of tension is a favoring process.

The most careful observations every day, both in private and Dispensary practice for nearly a decade of years have absolutely convinced me that we have two remedies on which we can rely for bringing about the favoring conditions I have mentioned, viz., the reduction of tension and the contraction of blood vessels.

These remedies are mercury and eserine.

In some recent remarks by Mr. Jonathan Hutchinson, we find the following: "Again there are in the homes, the schools, the workhouses and the hospitals, of England, some thousands of children suffering from ulceration of the cornea, attended with intolerance of light, causing the patient great distress through many months, and destined often to leave disfiguring and incapacitating scars; three-fourths of these, probably, would be almost well in the course of a fortnight under the use of a very weak yellow oxide of mercury ointment."

For the ordinary forms of corneal trouble for routine practice, the yellow oxide and vaseline ointment, 10 grains to the oz., as devised by myself, answers every purpose.

When we come to the severe forms, such as abcesses and ulcers, as well as those attended by great photophobia, I resort to eserine, a four grain solution, *once a day*, to reduce tension and contract blood vessels.

That both mercury and eserine will contract blood vessels needs no comment, but that eserine will reduce tension, which I have claimed as a favoring condition, will not be so readily conceded.

No one denies its tension reducing power in the glaucomatous state. Everyday experience shows it both by the visual changes and by the fingers on palpation.

Even under physiological conditions, we have the strongest proof that eserine will reduce tension to sub-normal.

Graser (1) has recently in the Pathological Institute, at Erlangen, made an exhaustive series of manometrical experiments; in which he demonstrates that;

The manometrical method for determining intra-ocular tension, but especially for the determination of slight variations, is not only sufficient, but, especially for the conditions last named, the only means for obtaining accurate results.

2. In reality the height of the intra-ocular tension is dependent upon the existing blood-pressure.

4. The play of the muscle system of the iris exercises a fixed influence on the height of the intra-ocular tension, to-wit, that dilatation of the pupil causes an increase, contraction a diminution of tension.

5. Atropine, placed on the conjunctiva in the quantity ordinarily used for producing mydriasis, increases the intra-ocular tension.

6. Eserine, employed in a similar manner, causes primarily an increase of tension, followed in all cases after at latest an hour (after the production of myosis) by a sinking of the tension below normal.

From years' of clinical observation, and supported by such accurate physiological experiments, I do not hesitate, however presumptious it may seem, to put forth what may be largely personal views to claim that in a general way in corneal affections the fundamental remedies are *the yellow oxide of mercury and eserine.*

The old plan of atropine, heat, etc., during the early stages, then the mercury should in my judgment be arraigned for permitting the formation of vast numbers of almost indelible opacities and staphylomata. I am thoroughly satisfied that both of these calamities can be largely averted by the use of the remedies indicated.

Furthermore, when once present, I am persuaded that no remedy will better favor the clearing up of opacities than eserine.

That many corneal cases are immediately and pleasantly relieved by mydriatics is a fact not to be called in question, and in my judgment simply adds justification to the views enunciated. With the permission of the Academy I will give what I regard as the explanation of this beneficial action of mydriatics and add remarks on conjunctival affections.

Dr. Reichert, late professor of anatomy in the University of Berlin, died last week at the age of 73. He was appointed to the professorship in 1858, on the death of Johannes Müller, when the Chair of Anatomy and Physiology, held by that distinguished physiologist was divided; the department of physiology being assigned to Dr. Du Bois-Reymond. A few months ago Dr. Reichert retired from his chair, and was succeeded by Dr. Waldeyer, of Strasburg.

The prohibition of the importation of American hams and bacon into France, which had been prohibited from fear of trichinosis, has been rescinded.

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1 Graser, Dr. Ernest, Assistant Pathologist, Institute at Erlangen, in *Archiv für Experimentelle Pathologie und Pharmacologie*, 5th part, 7th vol., 24, 1883.

Translations.

UNVERRICHT'S EXPERIMENTS ON EPILEPSY.

[Translated by Dr. Eric E. Sattler.]

Dr. Unverricht contributes to the last number of the *Archiv fuer Psychiatrie and Nervenkrankheiten*, a very interesting article of about 90 pages, on "*Experimental and Clinical Investigations on Epilepsy.* His results are at variance with those of a great many of the best modern investigators, and opposed to *Kussmaul's and Nothnagle's* theory.

The whole paper shows, however, great scientific accuracy, and brings out a number of new points; for these reasons I have thought that a translation, at least of the principal points in his resume, giving the results of *Unverricht's* clinical experimental investigations, would not come amiss.

1. Electrical excitation, not only of the so-called anterior motor cortical region, but also of the posterior cortical region, which, according to experimental investigation, stands in some relation to the visual sense, produces epileptic convulsions.

2. The length of time the current is employed exerts a greater influence on the production of the convulsions than the strength of the current.

3. The progress and course of the convulsions follows the position and arrangement of of the motor centers in the cortex, so that only those muscular areas are convulsed, whose centers lie side by side in the cortex.

4. Excitation of the posterior cortical region produces dilation of the pupil, widening of the palpebral fissure and lateral deviation of the eyes. Long continued excitation produced nystagmus and an epileptic convulsion.

5. Convulsions attack the other half of the body only after they have completely involved the one half. Sometimes there is a distinct interval.

6. On the side last involved, the convulsive movements take place in the regular typical order, begining in the posterior extremity, no matter where there point of origin was on the side first convulsed.

7. Certain groups of muscles may be but feebly convulsed or not at all, and the motor centers corresponding in the cortex are then generally not easily excitable.

8. The body temperature increases in certain cases 0.1—0.2° C. In the "*status epilepticus*" an elevation of temperature up to 44.1° was observed and after death an increase of 0,3°C noted. A diminution of the body temperature to 34.8° does not diminish the excitability of the cerebral cortex nor prevent the formation of the "*status epilepticus.*"

9. *Morphia* puts a stop to the convulsions only in very large, and generally fatal doses, while the intravenous injection of *chloral* at times in doses of only 0.2 grammes and the inhalation of *ether*, bring on an immediate cessation of the convulsive movements. *Atropine* increases the excitability of the cortex and convulsions that have already ceased can be again awakened by its use.

[*Unverricht* could not experiment with the *Bromide* of *Potash*, because its action depends on its long continued use.]—*Trans.*

10. The cortex cerebri plays an important role in the production of these convulsions. *Extirpation of different motor centers in the cortex, produces an absence of convulsive movements in the group of muscles which it represents.* This fact comes out most prominently when large extirpations are made.

11. Extirpation of motor cortical regions during the "*status epilepticus*" is followed by immediate cessation of the convulsions.

12. Deep incisions made between neighboring cortical regions exert no influence on the course of the convulsions, making it probable that the excitation may be propagated through the deep central regions.

13. Hemorrhage into the ventricle produces a cessation of the convulsions in the corresponding half of the body.

14. The convulsions produced by irritation of the cerebral cortex seems to correspond more than any other form of experimentally produced convulsions with the attacks of human epilepsy.

15. The different forms of aura and various psychical manifestations, as well as their interesting relations to sleep, etc., speak strongly in favor of a cortical origin of these attacks. (Human Epilepsy.)

16. Several clinical observations also show, that the destruction of certain cortical motor areas prevent in man convulsions of the group of muscles corresponding to the destroyed area.

[These embody the most important of *Unverricht's* results. They aid materially the views of those clinicians who have for some time been regarding the cerebral cortex as the part involved. Hitherto no experimentor has been able to produce so accurate and logical experimental proof as *Unverricht*, for the correctness of this view. It will now be the duty for clinicians, especially those connected with public institutions, to watch more closely the course, the character, the aura, etc., of these convulsions and not pass them by simply with a shrug of sympathy because the case happens to be one of epileptic convulsions—So common to be sure, but so little understood. It is time for the clinicians to be more careful and scientific in their clinical examinations and observations and not be continually waiting for the knife of the pathologist and the painstaking labors of the experimentor. Notwithstanding the large number of epileptics, very few accurate details are known of the exact starting point, the course, the secondary involvement of other parts, etc., of these convulsive attacks. In future we may, perhaps, localize the exact area of irritation in the cortex by the muscular group first convulsed.]—*Trans.*

TREATMENT OF DIPHTHERIA.—In a communication to the Société de Médicine Pratique Dr. Mollereau related the two following cases of diphtheria, which occurred in his own family:

On this occasion permit me to speak to you of the treatment of diphtheria, croup, membranous angina, with a one per cent. solution of bromine in water, a method of treatment originated by Dr. Testi, and made known by him in a brochure in 1877.

Having read this brochure during the past year, I was the more impressed with the results mentioned by the author, because of the report just then presented to the Academy of Sciences by MM. Arloing, Cornevin, and Thomas, on agents capable of destroying the charbon bacterium. This germ, as you know, is the one which most strongly resists all destructive agents, especially when it is dried. As the results of their experiments, these gentlemen stated that, of antiseptics employed in a state of vapor, bromine only possessed the property of destroying the dried germ of charbon.

At this time I decided that if I should be so unfortunate as to have one of my own children attacked with diphtheria, I would use the brominized water. I copied in my notes, from M. Testi's brochure, the part relating to the treatment, which is formulated as follows:

"The solution used is distilled water, containing one one-hundredth of its weight of pure bromine. It is transparent, of an orange color, has a penetrating odor, recalling that of chlorine; the taste is sharp; and it should be preserved in a dark bottle away from light.

1st. Hourly in membranous angina, and every fifteen minutes in croup, give the patient one, two, or even three drops of the bromine water, in a teaspoonful, or if preferred, a half teaspoonful of sweetened water.

2d. Lengthen the interval between doses, and diminish their size after several hours have elapsed, but never let more than two hours intervene between them.

3d. Use for the administration of the medicine either a glass spoon or a wine-glass, as the bromine attacks silver and forms a bromide with it, thus reducing somewhat the dose.

4th. Place the patient, whatever his age, upon a restricted diet, at least during the first day; at most give to young children only a little sweetened wine and water, and to adults a few spoonfuls of beef tea.

5. A gargle, containing a teaspoonful of vinegar and as much salt to a glass of water, has never appeared to injure the action of the remedy, and in pharyngeal diphtheria assists in cleansing the throat and in detaching the false membrane. But, of course, this latter can only be used in the case of adults.

6th. Finally, take care to have in the sickroom, as a prophylactic to others, a saucer of brominized water, which should be changed at least twice daily.

The curative action of the bromine, if no departure from the foregoing rules prevents it, will be manifested very soon. The first three or four doses will generally suffice to bring down the pulse (from 140 to 80 for example); even the pains in the loins will disappear. The local symptoms yield more slowly, it requiring from eighteen to twenty hours before the false membranes will begin to be detached.

Especially avoid giving milk and farinaceous foods during the treatment, the milk neutralizing immediately the action of the brominized water."

Last August, one of my children, a boy of six years, went to visit his grandparents at Nogent sur Seine. On the day after his arrival he was attacked with sore throat, of sufficient violence to be considered by the attending physician as a simple angina and was treated accordingly for the first few days; but the symptoms soon became severe, and the physician notified me that the patient was suffering from a grave membranous angina.

Before starting I had some of the brominized water prepared, and immediately upon my arrival, at six p.m., I submitted my child to this treatment and gave three drops of the solution every hour, in a little sweetened water, following to the letter all the prescriptions of Dr. Testi. The symptoms which he presented at this time were as follows: The face was very pale, the voice hoarse; he could only articulate with difficulty a few words; the respiration was difficult and noisy; with each inspiration the head was thrown back with a convulsive movement, and the expired air had a fetid odor; from the nose an ichorous liquid constantly flowed, which stained the linen and diffused a disagreeable odor; the alæ of the nose were constantly irritated by the presence of this liquid, and the submaxillary lymphatics were the seat of a considerable engorgement; the uvula, the tonsils and the pillow of the fauces were covered with a grayish membrane, which appeared very adherent; the pulse was beating at the rate of 140 per minute.

His grandmother, who had not left him since the commencement of his trouble, told me that he had been delirious the whole of the preceding night, and that for two days past he had been much worse in the evening.

Five hours after the treatment with the brominized water, the pulse had been reduced to 120, the ichorous liquid which escaped from the nose had become less abundant, and the child, who appeared more calm, rested a little. On the following morning a marked improvement was manifest, and I continued the medication, adding to it a spray of a one per cent. solution of carbolic acid on the false membranes, which the docility of the child rendered easy, and which was used every two hours.

About thirty-six hours after my arrival, the treatment not having been interrupted, a false membrane was detached, and where it had been attached a small bleeding wound was left. The child became much better, he commenced to play about in his bed; the respiration was much easier and no longer noisy and the expired air had no longer any odor; the ichorous liquid had entirely ceased flowing from his nose, and the size of the lymphatics was much diminished. From this time on I increased the intervals of giving the brominized water. Finally, four days after the commencement of this treatment, the false membrane was entirely detached and the child completely cured.

In the latter part of December my daughter, aged nine years, was seized with a membranous angina. I treated her with the brominized water and carbolic acid spray. At the time when I commenced to give the brominized water the pulse was 152 and the temperature 39.5° C. (103.1° F.) Three hours later the pulse had fallen to 132 and the temperature to 38.8° C. (101.8° F.) The false membranes which covered the throat did not commence to be detached until the fourth day, and it was not until the end of the eighth day that she was entirely cured.

Since then, several of my medical friends have used this method and have reported good results to me from its use.—*Journal de Méd. de Paris.* W.S.C.

Society Reports.

ACADEMY OF MEDICINE.

Meeting of Jan. 7, 1884.

WM. JUDKINS, M.D., *Vice-President, in the Chair*
W. H. WENNING, M.D., *Secretary.*

Ocular Therapeutics.

DR. SEELY, the President, after having called the Vice-President to the Chair, made some very interesting remarks on "Some Points in Ocular Therapeutics." (See page 129 of this issue).

DISCUSSION.

DR. P. S. CONNER said he could hardly be expected to discuss the subject which had been so admirably presented by the President as well as it deserved, but as the essayist had confined himself chiefly to the external affections of the eye he treated a subject that ought to be of interest to everybody. In no department of medicine or surgery have there been so great advances made as in ophthalmology in recent years. When the speaker was a student diseases of the eye received but little attention in clinical instruction and beyond conjunctivitis and scleratitis but little was heard of this branch of medicine. The most interesting point about the eye is the rich opportunity this organ offers for studying the relationship existing between the affections of different organs. It is said that the eye is admirably adapted to study the process of inflammation and thus to judge by analogy what is going on in other parts of the body, the changes of which are not so open to inspection. On this account, in later years, the subject of inflammation is taught altogether from a different standpoint from what was held to be true in former years. In the earlier years of practice one must unlearn what he has been previously taught, namely, that inflammation is a different entity, something that has been put into the body to produce its destructive action and that consequently must be driven out again. We now know that inflammation is simply a perverted nutrition, which may consist of every shade, from the slightest change from the normal condition to the highest degree of inflammation. These different steps of inflammation may be seen in the external tunics of the eye. What exists in one part is true also in other parts of the body, except certain changes which are peculiar to the different structures of the body. Thus, inflammation in bone undergoes the same process as inflammation in the soft parts, only that in addition we have to consider the changes thut are modified by the constituents of bone, the lime salts. If, in inflammation of the knee-joint, we cut off the blood supply we lessen the inflammation, limit the destructive changes and promote absorption, so also in eye affections we can see how by controlling the influx of inflammatory products certain changes may be prevented.

The speaker was also convinced of the correctness of the essayist's views that agents that promote dilatation are not the ones to be employed for reducing inflammation, but those that produce the opposite effect, constriction of the bloodvessels. If this principle had been inculcated years ago the speaker was certain that many cases would have terminated more favorably than they did by adhering to the treatment which was then thought to be correct. It is but just that as the iris is so frequently concerned in disease, especially of a specific nature, that the necessity of recognizing any troubles in this region is now constantly thundered in our ears. Many cases of destruction of the eye have come through the iris. The sooner wide dilatation is secured the sooner the patient will be out of danger.

The speaker was happy to learn that the essayist promised soon to make some remarks on conjunctival affections. Next to the iris the conjunctiva presents a most important part for study, and though inflammation of this membrane may not be as serious as is iritis, it is nevertheless as troublesome and therefore deserves our closest attention.

Dr. Cleveland said that one point of interest was suggested to him by the essay. A few weeks ago the impurity of the later preparations of vaseline was commented upon in this Academy, and it was claimed that vaseline was frequently an irritant. He would like to know if it was also irritating to the mucous membranes of the eye.

Dr. Conner enquired if all salves are not more or less irritable.

Dr. Seely replied to the first question that vaseline does not seem to have the irritating effect on the conjunctiva that it has on the skin, producing eczema of the external surfaces. When this latter trouble occurs it is probably due to the causes explained by Dr. Wilfert at that time.

To the second question he replied that in some instances certain salves seem to have irritant properties, but the speaker attributed this to the method by which certain substances, as, for instance, the yellow oxide of mercury, are distributed in the salve. It is difficult to say why it has certain irritating effects, or wherein the virtue of the yellow oxide really lies, whether it be the bichloride or the mercury. It is very difficult to get the yellow oxide chemically pure; almost every article contains the bichloride, which we know is a powerful parasiticide. Whether it be *per se* or through the bichloride, we nevertheless get its good effects.

Dr. Thrasher thought the essay highly interesting, because plain things had been presented in a plain way. Yet, in his estimation, one thing was not made so clear, namely, why it should be so difficult for a general practitioner to look into the ophthalmoscope. It seems but reasonable that if we can examine the external parts of the eye so easily we might easily, by throwing a pencil of light into it, be enabled to see at least something also in the interior of this organ. The speaker would admit that when he first handled the ophthalmoscope he was not able to see much, or rather he did not understand what he saw. He thought, however, with a little practice this might be learnt and the ophthalmoscope might be a valuable aid in diagnosis, which otherwise might be precluded, especially in diseases of a specific nature. He remembered several instances where a diagnosis was only made by this instrument. A man, who was at first thought to be sick with malarial fever, brewer by occupation, was brought to the Cincinnati Hospital. There was no history of the case except that the patient became gradually sick. The man became worse and in three or four days he did not open his eyes. One of the staff physicians asked if the eye had been examined and when this was answered in the negative at once proceeded to make an examination with the ophthalmoscope. A tortuous and overfull condition of the veins was at once discovered and the attending physician made a diagnosis of intra-cranial tumor. The patient was then put on antiseptic treatment by which he improved. In this instance the diagnosis was made only by means of the ophthalmoscope and the proper treatment was therefore suggested by its use. It is true it may be at first difficult to see what is found, but if we do not make the attempt we shall never learn anything.

Dr. Seely replied that his remarks on this point were general. They did not apply to such persons who have the opportunity of making themselves familiar with the appearance of the fundus; but the majority of practitioners have not this opportunity. The difference in the appearances of the fundus is as great as the faces we meet on the streets. Even specialists may be mistaken and unable to distinguish a physiological from a pathological condition of the interior of the eye. The speaker remembered one instance where another oculist had diagnosticated as glaucoma what was only a physiological condition. So also the bloodvessels may be very deceptive and absolute congestion may be incorrectly thought to be present. The ophthalmoscope can only serve to confirm a previously formed opinion of a case.

The price of Seguin's Opera Minora will be $5.

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Cincinnati, February 2, 1884.

The Week.

Ohio State Board of Health. —We are in receipt of the following circular, and bill for presentation to the Legislature. Ohio has thus far lagged behind most of her sister States in much-needed sanitary legislation.

This bill seems to us to be fair and just, and should receive the active support and indorsement of every honorable practitioner of medicine in the State, and to that end we hope our Ohio readers will at once take measures to call the favorable attention of our legislators to the urgent importance of the enactment of this or a similar bill into a law:

Cuyahoga County Medical Society.
Cleveland, O., Jan. 21, 1884.

Dear Doctor:

Herewith we take pleasure in sending you a copy of a bill creating "Boards of Health and Medical Examiners and Licensers," etc., prepared by X. C. Scott, M.D., of this city, and indorsed and recommended by the Cuyahoga County Medical Society, and which will be introduced within a few days in the Legislature. This bill is indorsed by every medical gentleman, no difference to what school or system of medicine he may belong, who has read and examined it. We sincerely hope that, after a thorough study of the bill, it will meet your hearty approval, and that you will unite with your medical friends in your county to present the bill to your member of the Legislature, and gain his support. The bill is free from politics, unsectarian, and aims to advance the interests of the public health and the people at large. It asks no more than is now granted to the legal profession in our State, and which every lawyer will acknowledge to have been of great benefit to the public and his profession. The bill has been prepared after a careful study of the laws of each State in the Union, and has been made fair and honorable to all recognized systems of medicine by giving each a representation in the Board proportionate to the number practicing each system in this State. The object of the proposed law is to strike a blow at ignorance and incompetentcy, but in no way to interfere with freedom of opinion or individuality of doctrine, and, if enacted, it will in no way interfere with any person now engaged in the lawful practice of medicine, inasmuch as it excludes all such persons from its operation. If the bill becomes a law the schools or colleges will continue to teach and confer degrees, but the State alone, through its Medical Board, will license.

In conclusion, let us say again, that in case you believe this bill will promote the public health and welfare, we hope you will use such influence with your member and friends in the Legislature as will induce them to bring all honorable means to its support.

Very truly yours,

I. W. Bard, M.D.,
E. D. Burton, M.D.,
Albert G. Hart, M.D.,
H. H. Powell, M.D.,
W. T. Corlett, M.D.,
Committee Cuyahoga County Med. Society.

AN ACT to establish Boards of Health and Medical Board of Examiners and Licensers, and regulating the practice of medicine and surgery in the State of Ohio, and defining the powers and duties of such Boards.

CHAPTER I.

Section 1. *Be it enacted by the General Assembly of the State of Ohio*, That there shall be a State Board of Health in this State consisting of nine physicians, who shall be graduates of reputable medical colleges, and who have practiced medicine or surgery for not less than ten years, but none of whom shall be connected in any manner with any medical school or college; *provided*, that in the appointment the several systems of medical practice recognized by the three State Medical Societies shall be in proportion of six, two, and one; that is to say, the system having the largest number of legal practitioners to have six, the next largest to have two, and the remaining system to have one. There shall also be one sanitary engineer and one attorney at law appointed members of the Board of Health, by the Governor, to serve for five years; and if any vacancy shall occur, from any cause, in either of these two offices of the Board, the vacancy shall be filled by the Governor for the unexpired term.

Sec. 2. Of the nine medical members of said Board, three shall serve, in the first instance, for three years, three for four years, and three for five years. This period of service shall be determined by lot. All appointments made in said Board of Health, at the expirations of the several terms fixed above, shall be uniformly made for the period of five years each. All vacancies occurring in said Board, except of sanitary engineer and attorney at law members, from whatever cause, shall be filled without delay by the appointment by the Governor, from persons nominated by the several State Medical Societies (in case such nomination shall be made) of a practitioner of the system of practice that had previously been represented by the seat so vacated.

Sec. 3. The persons so appointed shall take the oath of office prescribed by the seventh section of the fifteenth article of the Constitution of the State, before entering upon the duties of their office, and file a certificate of their having done so with the Secretary of State.

Sec. 4. The said Board shall, on a day to be fixed by them, in every two years, elect from their own number a President and Secretary, who shall hold their offices for the term of two years, and until their successors are appointed or elected and enter upon the duties of their offices. The said Board shall be a corporation, by the name and style of "State Board of Health and Medical Examiners and Licensers of Ohio," and have and use a common seal, and as such corporation may sue and be sued, contract and be contracted with, plead and be impleaded with to the extent to enable it to carry out the powers conferred upon said Board by this act. Said Board may make and adopt all necessary rules, regulations, and by-laws not inconsistent with the Constitution and laws of this State or of the United States, to enable it to perform its duties and transact its business under the provisions of this act. A majority of said Board shall constitute a quorum for the transaction of business pertaining to the Board of Health. A meeting of the Board may be called by the President or any three members thereof.

Sec. 5. The Secretary shall be the recording officer of the Board, and in addition to his other duties prescribed in this act, he shall respond to all communications of the local Boards of Health, as well as from any member of said State Board of Health residing at a distance from his office, and give to them such advice and information relative to their duties as he may deem necessary and proper. He shall also do and perform such other duties as the State Board of Health may lawfully direct, and in connection with the President of the Board, in case of the prevalence of endemic, epidemic, infectious, and contagious diseases, he shall, on the request of the local Board of Health, visit the locality and advise with them and adopt such regulations for its suppression as may seem best. He shall annually report to the Governor (the report being first approved by the Board), on or before the first day of January in each year, the investigations, discoveries and recommendations of the Board, which shall be printed and distributed as soon as practicable thereafter, in the same manner as other public documents of the State, except that the Governor may cause said report to be printed and distributed annually.

Sec. 6. The Board shall take cognizance of all the interests of the life and health of the inhabitants of the State, and shall make, or cause to be made, sanitary investigations and inquiries respecting the cause of disease, especially of epidemics and endemics, and the means of prevention, the sources of mortality, and the effects of locality, employments, habits, and circumstances of life on public health. They shall also investigate the causes of disease occurring among the stock or domestic animals in the State, the methods of remedying the same, and shall gather information in respect to these matters and kindred subjects, for diffusion among the people. They shall also examine into and advise as to water supply, drainage and sewerage of towns, villages, and cities, the ventilation and warming of public halls, churches, school-houses, workshops, and prisons, the ventilation of coal-mines, and how to treat promptly accidents resulting from poisonous gases, and as to all such make such orders as said Board of Health may deem necessary. When they may believe that any infectious or contagious disease will invade this State, it shall be their duty to take such action and adopt and enforce such rules as they may, in the exercise of their discretion, deem efficient in preventing the introduction and spread of infectious or contagious diseases into or within the State. They may enforce inspection of persons and articles of baggage, or other goods of whatever character, as well as the purification of same; and companies or individuals operating or controlling any railroad, passenger coaches, public or private conveyances, and steamboats or other craft plying the Ohio River or any of its tributaries in the State, or any river, canal, or navigable stream in the State, and steamers or vessels or any craft entering any port of this State on Lake Erie, shall obey the rules and regulations or orders when made and published by the Board in some newspaper at or near the place where the danger is; and any owner or owners, consignees or assignees, or any person or persons having charge of such railway train, passenger coach, steamboat, vessel or craft, or public or private conveyance, who shall refuse to obey such rules and regulations, or any order made and published by the State Board of Health under this act, shall be guilty of a misdemeanor, and fined not less than fifty nor more than one thousand dollars, or be confined in the county jail not less than fifteen days nor more than six months, or both.

Sec. 7. It shall be the duty of the Probate Court to nominate, and said Board to appoint, in each of the counties of this State, five intelligent and discreet persons residing therein, and who shall serve without compensation, except one, who shall be a person qualified to practice medicine and surgery under the provisions of this act, and who shall be the Secretary and Executive Officer, and receive a salary to be fixed by the Board, and not to exceed ———, and the persons so appointed shall hold their office, one for five years, one for four years, one for three years, one for two years, and one for one year, and thereafter one shall be nominated and appointed annually, and the term of office shall be for five years, and the persons so appointed shall constitute the *Local Board of Health* for the county of their residence, and until their successors are appointed, unless sooner removed from office by the State Board of Health. Vacancies occurring in said local Board shall be filled by the State Board of Health for the unexpired term, upon nomination of the Probate Court.

SEC. 8. The said local Board of Health shall make and establish for their counties, or for any district or place therein (except where a Board of Health has already charge of such district or place previous to the passage of this act) such sanitary regulations and rules as they may deem necessary and proper to prevent the outbreak of cholera, small-pox, scarlet fever, diphtheria, or other endemic, epidemic, or infectious or contagious diseases; and they, or any of them, may, except in the nighttime, in the performance of the duties imposed upon them, enter into or upon any house or premises, and inspect the same, when complaint is made, or they have reason to believe that such house or premises is in an unclean and infectious condition, or contains any contagious diseases; and if any house or premises be found in such condition as aforesaid, said Local Board shall direct and compel the owners, agents, assignees, occupants, or tenants of the house or premises upon or in which the infection or contagion may be found, to abate the same, and shall isolate or send the person so diseased to the pest-house or hospital if one is provided for that purpose. They may abate and remove all public and private nuisances within the county, and assess the costs and expenses of the same upon the property wherein such nuisance is situated, which assessment, when duly certified by the President of the Board to the County Auditor, shall become a lien, to be collected as other taxes in favor of the county; regulate the construction, arrangement, emptying and cleaning of all water-closets and privy vaults; and shall keep a correct and accurate system of registration of births, marriages, deaths, and interments occurring in such county, for the purpose of legal genealogical investigations and to furnish facts for statistical, scientific, and particulars for sanitary inquiries, and condensed reports of same must be furnished semi-annually to the Secretary of the State Board of Health. If any person shall refuse or fail to comply with the requirements and orders of said Board, he or she shall be deemed guilty of misdemeanor, and shall be fined not less than ten nor more than five hundred dollars, or be confined in the county jail for not less than ten days nor more than six months, or both.

SEC. 9. Such Local Board, and other Boards of Health already appointed in any city, town, or district in the State, shall also enforce, within their county, city, town, or district in which they have control, all lawful rules and regulations of the State Board of Health applicable to such county, city, town, or district.

SEC. 10. It shall be the duty of every practicing physician in every county, city, town, or district in the State, to report every month all the births and deaths occurring in his practice to the Local Board; and in case he refuses or fails to comply, shall be deemed guilty of a misdemeanor, and be fined not less than five nor more than fifty dollars, which shall be paid into the County Treasury, for the benefit of the Local Board of Health.

SEC. 11. It shall be the duty of the owner, or agent of the owner, of a house in which a person who has small-pox, or any other disease dangerous to the public health, and the physician called to attend the person so affected, within twenty-four hours after becoming cognizant of the fact, to give notice thereof to the Local Board of Health; and when a person so affected is isolated or removed to a pest-house or hospital, the Local Board of Health is empowered to use all necessary means to restrain him of his liberty, until the danger of infection or contagion from such disease ceases; and said Local Board shall, at least once in every month, report to the State Board of Health the character of all such infectious, contagious, endemic, or epidemic diseases, the number of persons reported as affected with any of said diseases, the action taken by such Local Board to arrest the progress of any such diseases, and the visible effects of such action.

SEC. 12. When any city, town, or village has a Board of Health of its own, the jurisdiction of the Local Board so appointed shall not extend thereto, but such city, town, or village Board of Health shall be auxilliary to, and act in harmony with, the State Board of Health, and shall carry out all lawful orders made by said State Board of Health.

SEC. 13, The Local Board may appoint as many ward, district or township physicians as it may deem necessary, for the care of the sick, poor and such other persons as may be in need, appoint sanitary police and define their duties and fix their salaries, all such appointees shall serve during the pleasure of the Board.

SEC. 14. The Local Board of Health of any county in this State may declare quarantine therein or in any particular district or place therin, against the introduction of any contagious or infectious diseases prevailing in any other State, county or place and of any and all persons and things likely to spread such contagion or infection. As soon as such quarantine is established, such Local Board shall, in writing, inform the President and Secretary of the State Board of Health, whose duty it shall be to ascertain as soon as practicable the necessity therefor, if any exist, and if they find no such necessity exists, they shall declare the same raised.

SEC. 15. The said Local Board shall have power and authority to enforce such quarantine until the same is raised, as aforesaid or by themselves, and may confine any such infected person or any person liable to spread such contagion or infection, to the house or premises in which he or she may reside or at a place provided by them for the purpose; and if it shall become necessary to do so they shall appoint sufficient sanitary police for the enforcement of their orders in the premises, and every person who shall obstruct, fail or refuse to obey the orders and directions of such Board in enforcing said quarantine, shall be deemed guilty of misdemeanor, and fined not less than twenty-five, nor more than two hundred and fifty dollars, or imprisoned in the county jail not less than ten nor more than sixty days, or both.

SEC. 16. In case of emergency or of actual necessity, and when the court or corporate authority are from any cause unable to meet or provide for the emergency or necessity of the case, all necessary expenditures for local and county sanitation, as provided for in this Act, shall be certified by the Local Board of Health to the Probate Court, and the whole, or as much thereof as said Court may deem right and proper, shall be paid out of the County treasury. The Board of Health of any city, town or village shall have the same power and perform the same duties, as to the city, town or village where they have quarantine, herein conferred upon, and required of the Local Board of Health in their county, except that the expenses shall be paid from the treasury of said city, town or village. The State Board of Health may also, under the provisions of this Chapter, declare quarantine in any part of the State, and all provisions of this Chapter shall be applicable to the quarantine so declared.

SEC. 17. Whenever quarantine is declared, all railroads and steamboat corporations and the owners and consignees or assignees of any railroad, steamboat, or stage or other vehicle used for the transportation of passengers, baggage or freight, shall submit to any rules or regulations imposed by such Board of Health or Health officer. They shall submit to any examination required by the health authorities respecting any circumstances or event touching the health of the crew and passengers and the sanitary condition of the baggage and freight. Any owner, consignee or assignee, or person interested as aforesaid, who makes any false declarations respecting the points under examinations, shall be guilty of misdemeanor, and shall, upon convicfion before any Court, be fined not more than Five Hundred Dollars or be imprisoned in the county jail not more than six months, or both. All fines thus collected, less costs, shall be turned over to the Staitary Fund of the county, city, town or village, where such quarantine may be established by its respective Board of Health..

SEC. 18. The State Board of Health, its agents and employees, and Local Board of Health in absence of the State Board of Health, its agents and employes, when they have reason to believe that any steamboat or other water craft navigating the Ohio River or its tributaries, or any canal or other waters in this State or bordering thereon, is infected with any contagious or infectious disease, may prevent the landing of such boat or craft at any port in this State. They may also, if they have reason to believe that any railroad coach or other vehicle passing on or along any railroad or public highway in this State, contains any person or thing infected with contagious matter, detain at any station or point on such railroad or public highway, when it can be done with safety to such train or vehicle, for a time sufficient to examine the same, and if found to be so infected, for a time sufficient to disinfect and purify the same, and if the conductor or person in charge of such train, coach or vehicle, shall willfully fail or refuse to stop such train, coach or vehicle for the time aforesaid, he shall be deemed guilty of misdemeanor and fined not more than Five Hundred Dollars or imprisoned in the county jail for not more than six months, or both.

SEC. 19. If any person knowingly sell any diseased, corrupted or unwholesome provision, whether food or drink, without making the same known to the buyer, he or she shall be guilty of misdemeanor, and be fined not more than two hundred and fifty dollars or imprisoned in the county jail not more than six months, or both. The diseased, corrupted or unwholesome provision shall be forfeited and destroyed.

SEC. 20. If any person fraudulently adulterates for the purpose of sale, anything intended for food or drink, drug or medicine, or if he knowingly sell or barter anything intended for food, drink, drug, or medicine, which is not what it is represented to be, he or she shall be deemed guilty of misdemeanor and shall be fined not exceeding Five Hundred Dollars or imprisoned in the county jail not more than one year, or both, and the adulturated food or other article shall be forfeited and destroyed.

SEC. 21. If any person knowingly and willfully infect or communicate to another person any loathsome, contagious or infectious disease, he or she shall be deemed guilty of felony and be fined not more than Five Hundred Dollars and imprisoned in the Penitentiary not more than three years, or both.

SEC. 22. In case of any epidemic or threatened epidemic, the County Commissioners shall have power to borrow until such time as the next tax levy and collections thereof be made, at a rate not to exceed six per cent. any sum of money that the Local Board of Health and the Probate Judge may deem necessary to defray the expense of the aforesaid quarantine.

SEC. 23 Prosecutions under this act and civil action provided for in the preceding Sections, shall be instituted before any tribunal within the county having jurisdiction thereof; the fines accruing from violation of this Chapter shall be paid into the city or county treasure, and be credited to the Local Board of Health fund of said city or county.

SEC. 24. When expenses are incurred by the Local Board of Health, under the provision of this Chapter, it shall be the duty of the County Commissioners, upon application and certificate from said Board of Health and Probate Court, to levy a tax sufficient to pay the expenses incurred, and to set the same apart in a special fund to carry into effect the provisions of this act.

CHAPTER II.

SEC. 25. The nine medical members of the State Board of Health shall constitute the Board of Medical Examiners and Licensers for the State of Ohio, and their terms of services as such Medical Examiners and Licensers shall be as prescribed in Section three of this Act, and the President and Secretary of the State Board of Health shall be the President and Secretary of this Board.

SEC. 26. The said Medical Board shall examine all applicants for license to practice medicine or surgery in this State. They shall meet semi-annually, on the second Tuesday in April and second Tuesday in October, and at such meetings shall faithfully examine all candidates referred to them for that purpose by the President of said Board, and each Examiner shall keep and furnish a detailed report in writing of all questions and answers of each examination, together with a seperate opinion of each Examiner as to the qualifications and merits of the candidate in each case. The examinations shall be conducted in writing, except clinical, which may be oral; the President and Secretary of the Board shall have authority to administer oaths, and the Board to take testimony in all matters relating to its duties..

SEC. 27. Such examinations shall be in hygiene, anatomy, physiology, histology, pathology, principles and practie of medicine, chemistry, surgery obstetrics, materia medica and therapeutics, and such other branches in the several departments of Medical Science as said Board may agree upon. The questions forming such examination shall be the same for each class of candidates offering themselves with the exception of principles and practice of medicine and therapeutics, in which, in branches the questions for each candidate shall be prepared by the representative in the Board of Examiners of the system of practice to which such candidate wish to be licensed.

SEC. 28. The said report and action of the Examiners shall forever be a part of the Public Records of said Board.

SEC. 29. Any person on paying twenty-five dollars into the treasury of the State of Ohio, and upon presenting a receipt for the same to, and applying to the President of the Board for the aforesaid examination, shall receive an order addressed to the aforesaid Medical Board, instructing them to examine the candidate at the next semi-annual examination, provided proof, satisfactory to the President, is given, that the candidate is over twenty-one years of age, of good moral character, and has received a diploma issued to him or her, conferring on him or her the degree of doctor of medicine from some legally incorporated Medical College, held to be in good standing by said Medical Board, and should any candidate fail, he shall have the privilege of appearing again before the Board, at the next semi-annual meeting, without any additional fee.

SEC. 30. The President and Secretary of said Board, after finding that seven of the nine members of said Board have voted in favor of such candidate, and that such examination has been a satisfactory test of the qualification of such candidate, shall issue to him or her a license to practice medicine and surgery in the State of Ohio, for which license the candidate shall pay to the Treasurer of the State of Ohio the further sum of ten dollars.

Said Medical Board may refuse to recommend a license to individuals guilty of unprofessional or dishonorable conduct and they may revoke a lisense for like cause upon a two-third vote after giving the accused an opportunity to be heard in his or her defense.

SEC. 31. The Medical Board shall establish such rules and regulations as they may deem necessary to insure the faithful execution of this Act.

SEC. 32. On or before the first day of July, A.D. 1884, every person who is a graduate of a reputable medical college, or legal practitioner, or have complied with Sections twenty-nine and thirty of this chapter shall, before continuing or commencing to practice, register in the Probate Judge's office, in a book kept by said Judge for such purpose, where he or she practices or intends to practice medicine or surgery, his or her name, residence and place and date of birth, together with the date of his or her diploma, and by what institution granted, with his or her license to practice medicine or surgery within this State; at the same time the person registering (unless a graduate in medicine and surgery of some reputable medical school or college, or legal practitioner practicing medicine or surgery at the time of the passage of this act, within the State of Ohio) shall exhibit both license and diploma herein required to the Probate Judge, and all persons shall subscribe and verify by oath or affirmation before a person duly qualified to administer oaths under the laws of this State, an affidavit containing a plain statement of all the facts as aforesaid, including his or her age, and shall file said affidavit and copy of said diploma with said Probate Judge. The person so registering shall pay to the Probate Judge one dollar, of which sum the said Probate Judge shall receive fifty cents for such registration and other duties prescribed in this chapter, and the remaining fifty cents shall be paid over by said Judge to the treasurer of the State of Ohio within thirty days after its receipt, for the benefit of the Medical Board. Every graduate in medicine and surgery of any reputable medical school or legal practitioner in this State, at the time of the passage of this Act, shall register and comply with all the requirements of this chapter, except producing a license from the State Board, and every person desiring to practice medicine and surgery after the passage of this Act, who is not a graduate in medicine or surgery of some reputable medical school, or a legal practitioner practicing medicine or surgery in this State at the time of its passage, must appear before the Medical Board of Examiners and obtain a license, as provided in Sections twenty-nine and thirty of this Chapter. Nothing in this Chapter shall be so construed as to prohibit medical consultation in different counties in the State between legally qualified and registered physicians of this and any other State.

SEC. 33. A person who shall willfully swear falsely to any statements contained in the affidavit required by Section thirty-two of this Act, shall be deemed guilty of and subject to conviction and punishment for perjury, and any person or persons who violate any other of the provisions of this chapter, or who shall practice medicine or surgery in this State, under cover of a diploma or certificate unlawfully issued and illegally obtained, or without a license, as provided for in this chapter, shall be deemed guilty of a misdemeanor, and on conviction thereof shall be punished by a fine of not less than Two Hundred and Fifty Dollars nor more than One Thousand Dollars for the first offense, and for each subsequent offense by a fine as aforesaid, and by imprisonment not less than thirty days nor more than one year in the county jail, or both. The fine when collected, shall be paid one-half to the person or corporation making the complaint, and the other half to the treasurer of the State for the benefit of the Medical Board.

SEC. 34. Every person practicing medicine or surgery in this State, shall annually register his or her name as prescribed in Section thirty-two of this chapter, and such registration shall take place on or before the first day of July of each year.

SEC. 35. For the purpose of this Act, the words "practice medicine or surgery" shall mean to annex the letters M.D. to one's name, or to suggest, recommend or prescribe, direct or employ, as a matter of business, or for a fee, for the use of any person, any drug, medicine, appliance, apparatus, or other agency, whether material or not material for the treatment, cure, relief or palliation of any real or supposed ailment or disease of mind or body, or for the treatment, cure, relief of any wound, fracture or other bodily injury or infirmity or deformity.

SEC. 36. The moneys paid into the State Treasury, under the provisions of this chapter, shall be appropriated for and assist in defraying the expenses incurred under the provisions of this chapter.

SEC. 37. Nothing in this chapter shall apply to commissioned medical officers of the United States Army or Navy, or of the United States Marine Hospital Service, nor to any of the members of the house-staff of any legally incorporated hospital during their term of service as such.

SEC. 38. Semi-annually, on or before the fifteenth day of January and July of each year, every Probate Judge in the State shall furnish a certified copy of the names, address and residence, place of business, and by what authority they are permitted to practice, of all persons practicing medicine or surgery in their county, not previously reported that year, to the Secretary of the Medical Board, and said Secretary shall record the same in a book to be kept by him for that purpose and shall send a certificate of record to each person so recorded each year.

SEC. 39. The Medical Board shall have the power to strike the name of any practitioner of medicine or surgery, guilty of unprofessional or dishonorable conduct, from the registry list, and refuse to allow his name to be recorded or to practice medicine or surgery in this State, upon two-thirds vote, after giving the accused an opportunity to be heard in his defense.

SEC. 40. The President and Secretary of the State Board of Health and Medical Board shall each receive a salary to be fixed by the Board, but not to exceed One Thousand Dollars for the President and Two Thousand Dollars for the Secretary, per year. They shall also receive their traveling and other necessary expenses incurred in the performance of their official duties within the limits of this State, when approved by two-thirds vote of the Board. The other members of said Board shall each receive ten dollars per day for each day actually and necessarily employed by them in the discharge of the duties of their office. The State Board shall audit all bills made out in due form and verified by the member rendering the service or incurring the expense or traveling in the performance of the duties of his office. Such bills, when approved by the Governor, shall be paid out of the State Treasury.

SEC. 41. The Governor shall remove any member of the State Board of Health or Medical Board for unprofessional or dishonorable conduct upon the recommendation of two-thirds vote of the Board.

SEC. 42. The sum of Five Thousand Dollars per annum, or so much thereof as may be deemed necessary by the State Board of Health and Medical Board, is hereby appropriated to meet the necessary and legitimate expenses of the Board, should the fund raised by the different provisions of this Act not be sufficient to meet such necessary and legitimate expenses.

SEC. 43. No part of this chapter shall be considered as applying to those practicing dental surgery or dentistry.

SEC. 44. The Adjutant General shall procure suitable room for the meetings of the Board at Columbus, and office for the Secretary.

SEC. 45. All other Acts or parts of Acts inconsistent with this Act are hereby repealed.

SEC. 46. This Act shall take effect July 1st, A.D. 1884.

THE SIMS MEMORIAL FUND.—*To the Medical Profession and Others throughout the World:*

The great achievements of Dr. J. Marion Sims call for some more lasting testimonial than obituaries and eulogies. To him medical science is indebted for much brilliant and original work, especially in gynecological surgery. Those who have been benefited by his teaching and new operations, and such as have had the direct advantage of his personal skill are among the first to recognize and acknowledge this debt.

To him is due the honor of giving the first strong impulse to the study of gynecological surgery in America.

It is believed that the medical profession everywhere, the vast number of women who owe their relief from suffering directly to him, and those who realize the benefits he first made possible, will gladly unite thus to honor the man through whose original and inventive genius such blessings have been conferred upon humanity.

At the suggestion of many friends, therefore, the subjoined committee has been organized, and it is proposed that a suitable monument be erected to his memory in the City of New York.

To this end the active co-operation of the medical profession, and the many other friends of Dr. Sims throughout the world, is respectfully solicited. Contributions of one dollar and upward may be forwarded to the journal which has been constituted the treasury of this fund, *The Medical Record*, New York.

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W. J. Howard, M.D., "

Contributions to this fund may be sent to the Editor of the LANCET AND CLINIC and such sums will be forwarded and reported through the Cincinnati Committee. *The Medical Record*, New York, will publish in full the list of subscribers and amounts given.

ANATOMY IN CHICAGO.—There is, this winter, a decided scarcity of "material" for dissecting purposes in Chicago, and, as will always be the case, it has developed the spirit of grave robbing. This state of affairs is to be deplored, because, proceed how we will, the medical man is always more or less associated in the public minds with such acts; nor are we prepared to say that the majority of the best medical men will shirk the association under certain circumstances. Material for dissection has to be had; there is no disputing that point. A medical college without the means of dissection is the worst kind of absurdity; and the material being in demand, money will procure it. It may be at the expense of public morals, and it may be to the annoyance of those whose functions it is to procure and utilize such material; but it will be had, and the obloquy, if such there be, should rest not on those who procure the material, but on those who present the temptation. For several years past there has been little or no difficulty in this respect. A law was passed by which the commissioners were empowered to hand over to the various colleges, *pro rata*, the unclaimed dead in all counties of more than a hundred thousand inhabitants. This law worked very well as long as the various demonstrators were willing to pay ten dollars for the handling of such dead, but as soon as the demonstrators refused to pay such sums and to claim the unclaimed dead as their legal property, the said law, on being studied by interested persons, gave no right to the colleges, but only the permission to the commissioners to confer such favors on the colleges; at any rate, that is their construction of it. We regret that the demonstrators have not displayed more legal acuity before attempting to force the breach; but let us hope that the evident intention of the legislators may cut some figure in the interpretation of the law; but in order to test such a case it would be necessary for the combined colleges to commence suit, although we fear, from the letter of the law, that it will be necessary to enact another law. Meanwhile two students of this city have been arrested for grave robbing; but as the subject was not at all mutilated and has been restored to the friends of the deceased with all due decorum, let us hope, under the circumstances, the interested persons will not press the suit.—*Chicago Medical Review*.

A liberal anatomical law has given the Cincinnati medical colleges ample dissecting material, and, we are pleased to say, works without unnecessary friction or application of palm oil.

THE AMERICAN ASSOCIATION FOR THE CURE OF INEBRIATES have issued the following circular. Our readers are respectfully requested to reply to the inquiries. The subject is worthy of attention:

HARTFORD, CONN., Jan. 22, 1884.

The following inquiries are addressed by the American Association for the Cure of Inebriates, which was organized in 1870 for the purpose of studying the nature and causes of inebriety from a purely scientific standpoint.

The purpose of these questions is to gather the practical experience and observation of leading members of the medical profession, as a basis for a more accurate knowledge of the nature and character of inebriety.

Full answers to these inquiries, and other facts relating to this subject, are most earnestly solicited, and will be fully credited to each reporter. The results of this investigation will be sent to each one free when published. Very truly yours,

T. D. CAROTHERS, M.D.,
Secretary of Committee and Editor of
Journal of Inebriety.
Post-office address, Hartford, Conn.

Can you give any facts, from observation, bearing on the heredity of inebriety, particularly as to the presence of insanity, epilepsy, phthisis, inebriety, or other neuroses in the parents or relatives of inebriates?

Give cases with histories if possible.

Can you give any history of inebriates whose drinking dated from, or was influenced by, head injuries, sunstroke, syphilis, or could be traced to mental shock, disease or injury of any kind; also to overwork, nervous exhaustion anæmia, and any specific causes which broke down or injured the system?

Have you seen any cases in which insanity or epilepsy either preceded or followed inebriety? If so, was it traced to the use of alcohol alone, or was it due, in part or in whole, to some inherited or acquired diathesis?

Have you noted any distinction between the different forms of inebriety, such as irregular, continuous, or periodical inebriety? State any facts you have noticed which relate to the periods and forms of drinking?

THE SCOTT BILL.—Dr. Scott's bill "to establish Boards of Health," etc,, was read before the Academy of Medicine last Monday evening. After some rather hasty expressions of opinion in reference to the bill, it was referred to a committee of three (Drs. Thrasher, Drury, and Wilfert), with instructions to report in three weeks, when its discussion will be the special subject for the evening, so that the members of the Academy may vote intelligently in reference to this very important matter. It certainly deserves a careful reading. Our views will be expressed more at length at another time.

MIAMI MEDICAL COLLEGE.—This institution announces a course of recitations for the spring term. This course is most admirably adapted to the wants of the industrious student of medicine.

For particulars see advertisement in this journal.

AT the next meeting of the Cincinnati

Medical Society, Tuesday evening, February 5th, Dr. Eichberg will report a case of œdema of the lungs.

ACADEMY OF MEDICINE. — Dr. Zenner will read a paper on "Epileptic Insanity" at the next meeting of the Academy, Monday, February 4th.

DR. BRAND, of Stettin, was the first man to introduce (in 1861) the treatment of typhoid cases by cold baths.

BALTIMORE has an inspector of plumbing, an office which should be created in every city of the country.—*Exchange.*

DR. W. J. SCOTT, Prof. of the Principles and Practice of Medicine, Medical Department of Wooster University, Cleveland, Ohio, says: "I have prescribed BROMIDIA and believe the remedy *reliable*; regard the combination *as a valuable one.*"

Selections.

MEDICINE.

SPONTANEOUS PYOHEMIA. — M. Guyot, at a recent séance of the Société Méd. des Hopitaux, reported a very interesting case. It occurred in a gentleman, thirty years of age, wealthy and living under excellent hygienic conditions in the country.

The patient at first complained of slight pains in the muscles, which were prescribed for as resulting from a slight cold. Forty-eight hours later, the pains were felt in the synovial sheaths of one of the wrists, and from thence they spread to those of the forearm, and later to those of the lower limbs.

On the fourth day the patient died. There was nothing abnormal about the urine, and no cause to suspect infectious rheumatism; the patient succumbed to true spontaneous pyohemia.—*Medical and Surgical Reporter.*

PURGATIVE LINIMENT.—The following preparation is recommended in the *Zeitschrift der West. Allg. Apoth'-Verien* in cases where it is impossible to administer purgatives by the stomach:

℞. Tinct. colocynth., ʒ ix.
Ol. ricini, ʒ xx.
M.

Every morning and evening about one teaspoonful of this mixture may be rubbed in over the abdomen. The tincture is prepared by the maceration of one part by weight of fresh colocynth seeds in ten parts of concentrated alcohol.—*Medical and Surgical Reporter*

PROFESSOR VIRCHOW ON THE INFECTIOUSNESS OF TUBERCULOSIS.—At the last meeting of the Berlin Medical Society, a debate on this important subject took place which was joined in by the *elite* of the medical faculty in Berlin.

Professor Virchow, who has always doubted whether much was to be gained (in the direction of acquiring impunity against tuberculosis by inoculation with a weakened virus, as in the case of splenic fever) from the numerous experiences in earlier investigations, delivered himself of the following *impromptu* speech, which we translate from the *Deut. Med. Zeit.* for the benefit of our readers:

He said he was not of the opinion that the tubercle bacillus had infectious properties in the strict sense of the term. We then reached the difficulty that the terminology did not meet the case. The expression "infection" had, properly speaking, the sense of grouping together a series of processes which agreed in this, that they had as a basis a power of reproduction and that they were dyscratic and affected the whole body, not simply that the material in question came direct to a spot, but that it infected the body, and of which it was assumed that the substances were of a chemical nature. Since fungi had been introduced, and all fungi had been considered infectious, there had been a certain amount of difficulty as to whether, for example, thrush and scabies were infectious processes. The difficulty had arisen from infection and contagion having been mixed up together, things that, according to the speaker's view, were different. When a man asked himself what attitude he should assume in regard to these parasitic diseases in which the small fungi played a principal part he must decide to recognise two principal categories which, although they might be similar in their larger features, were quite distinct as regarded particulars. The one category was best represented by that form of disease which could be produced by the artificial introduction of aspergillus into the body, a form which in birds was met with tolerably extensively, and which in geese, for example, caused great devastation. Now, we know by experiments that have been made extensively, that we met with two kinds: we could see at the point of inoculation that the aspergilli grew, and further, that the fungus spread, and appeared in other organs as a metastatic process. Nevertheless, the aspergillus, even when it caused these metastases, did not cause any dyserasia, and there was no ground, whatever, for the assumption that it was the cause of the specific injury that exercised such a baneful influence over the whole body. If we assumed that the fungus excreted a poison, the aspergillus did not cause the impression, that it also excreted a poison and acted by reason of it, but it caused its effect on the spot where it was, and carried farther, it acted also on other points of the tissues, but they always remained particular spots, and we never had a general toxic infection of the whole body. In regard to tubercle, the speaker noted that long before the bacillus was thought of, only a single case had been brought forward in which something like a typhoid appearance was manifested, namely, miliary tuberculosis. As regard to the rest, no one supposed that a specific poison had been present along with the local process and that a kind of toxic infection was associated with it, but it had been simply held that a tendency existed to set up new local processes in other places. Thus in the case of pyæmia, for exemple, that which the embolus caused within the body and that which the other injurious influences attaching to it caused, were very different. We must now make use of our experiences and not believe that all our knowledge, up to the present, was useless. On the contrary, it had now, for the first time, its justification. So long as the fact could not be proved that the bacillus of tuberculosis had such a toxic action we should have every ground for suspecting that it acted where it was, but not upon other regions, and that when, for example, we took the blood of such an infected animal after the the first invasion had passed by, we could have no expectation that the blood would act injuriously.

On the other hand, we must recognize the enormous difference there is in the other group of diseases, where, undoubtedly, an injurious substance was propagated, as, for example, in the case of splenic fever. At the time when the epidemic of splenic fever broke out among animals of the chase in the Grunewald, the speaker made a large number of investigations, and he arrived at the fact that the inoculation of the blood of these animals set up the worst forms of anthrax, although not a single bacillus was demonstrable and not a single animal showed such bacilli. Within the last few days, a work, by Roloff, had appeared (1) which confirmed this observation. The writer was more prejudiced, as he had not known of his (Virchow's) investigation. He found that, besides the two forms of *bacillus anthracis*, a third form must exist in the shape of exceedinglv minute granules. Whilst, before his (the speaker's) investigations, the question was discussed, as to whether the fatal course of splenic fever did not depend on the fact that the bacteria were present in the blood in such quantities, that they enclosed the blood corpuscles and thereby prevented the entrance of oxygen, and thus brought about actual apnœa, he had succeeded in producing a form of anthrax, in which not a single bacterium was demonstrable.

As now, the fungi acted neither mechanically nor by their simple presence, nothing remained but the assumption that they were able to exert a particular action upon the material of the body, by virtue of which, they called forth toxic products. This form of splenic fungus, and that of the aspergillus must be looked upon as two processes standing upon entirely different grounds, and if in processes, belonging to the second series, a second inoculation must fail, this could not be the case with the first series.

He had convinced himself of the excellence of Pasteur's inoculations, when he performed the inoculation experiments in Packisch, at the instance of the Minister of Agriculture. They had only one drawback, that vaccination itself had, viz., that from time to time, failures were met with which could not be explained. But the failures of Pasteur were all of one kind. He had racea of sheep before him, which, as it appeared, were more susceptible than those on which he had been accustomed to operate, and the same lymph that he had found suitable in France, had simply produced anthrax in some animals, of which they died. Pasteur had shown that a certain kind of fluid could be produced which inoculated produced a very slight

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(a) "Ueber die Milzbrandimpfung und die Entwickelung der Milzbrand Bacterien." Prof. Roloff, Archiv. fur Tierheilkunde. Bd. IX., Hft. 6.

disease which prevented a fresh attack. after the proof, it was only necessary to give the protection lymph a form in which it would be certain in its action under any conditions.

He had had the the impression that what Baginsky described, were circumscribed patches of caseous pneumonia. Instead of the word "tubercle," it would be better to operate with the word "bacillus." The previous speaker had asked if caseous pneumonia were not also tuberculous: It could be called tuberculous, but the speaker saw no ground for calling a process tuberculous, in which no trace of tubercle was present. One should rather ask, on the contrary, whether tuberculosis and caseous pneumonia were not both the result of the bacillus. It was immensely difficult for many pathologists to ascustom themselves a little to consider things from two different sides, and yet the twofold method—the one from the causal, the other from the essential point of view—was in medicine absolutely necessary. Tubercle was a little nodule. Caseous pneumonia was a comprehensive process. If they both sprang from the bacillus they could be called bacillar, but they could not be called tubercular. In relation to this point, the speaker mentioned an analogous example. In syphilis, we had the same varied forms of manifestation. A formation that appeared as a nodule, was called a gumma or syphiloma. But we should not say that this was identical with an erythema syphiliticum, but that things differing in themselves both had their origin in syphilis. No one would look upon a syphilitic bubo and a syphilitic osteosis as identical Each of them had its own course, and must be considered by itself. We had many more interesting manifestations of the same kind in toxology. How many-sided for example, was the action of phosphorus? In the course of accurate study, phosphorus necrosis was the first met with. Later on, we became acquainted, through Wegner, with the form ot physphorus necrosis of the interior of growing bone. These were two processes that were throughout non-identicle. We knew further, that phosphorus was the cause of peculiar changes in the liver, acute yellow atrophy. But it was equally true that such processes were met with in which no trace of phosphorus was demonstrable, and we had now accustomed ourselves to recognise several forms of the affection.

From these examples the speaker traced the importance of looking at things from various points of view, and again advised that things that were caused by bacilli, should be called "bacillar," and that the word "tubercle," should be employed anatomically for distinct formations. Baginsky, in his inquiry, had given utterance to a misconception, when he said that Laennec, when he established the unity of tuberculosis, had derived tubercle proper, and this so-called tubercular-infiltration from the same beginning. This was decidedly a misconception. Laennec had never considered tuberculosis, but phthisis to be one, and had said that phthisis was tubercular. He had then, however, described two kinds of origin—*granulation, tuberculeuse*, and *infiltration tuberculeuse*. Finally, in coming to the expression, that there was only one phthisis, he denied, for example, that there was a syphilitic phthisis. To-day, no one made any hesitation about that. He (Virchow) held the belief that there were several kinds of phthisis, and if a man would not accustom himself to this belief, he would never be in a position to understand them. He also believed that it was possible to indicate them terminologically, when the cause as such was designated, and the pathological product had its own designation. He should thus believe that what has been described by Baginsky, belonged to the inflammatory and not to the tubercular series.—*The Medical Press.*

SURGERY.

Epithelioma of Tongue.—The following case was reported at the Medico-Chirurgical Society of Montreal and published in the *Canada Medical and Surgical Journal:*

Dr. Shepherd narrated the case and showed the specimen: Thomas W., aged forty-two, a strong, healthy man, came to the Montreal General Hospital in January, 1883, suffering from epithelioma of the tongue; this being near the tip, only a portion of the tongue (right half) was removed with the scissors by Dr. Fenwick. Two months ago he noticed that the growth was returning, and at the time of his readmission into the hospital, under Dr. Shepherd, early in November, it was increasing rapidly. He then had an epitheliomatous ulceration of the part of the tongue that remained, and also of the right tonsil and left anterior pillar of fauces; the floor of the mouth was infiltrated and hard. It was decided to remove the whole tongue. This was done on November 10th. Dr. Shepherd first ligatured the lingual artery of each side by a curved incision reaching from the front of the angle of the jaw to the hyoid bone, and up toward the symphysis. After ligaturing the linguals, the tongue was removed by scissors with very little trouble and no hemorrhage, after Mr. Whitehead's method. The right tonsil (or part of it) and the anterior pillar of fauces were removed also by scissors. After the operation the patient rallied well, and was fed for two days by nutrient enemata, the mouth being rinsed out frequently with a solution of Condy's fluid. For five days the man did well; there was no fetor from the mouth, the wound was granulating nicely, and the incisions made for tying the lingual were healing by first intention, when, on November 15th, erysipelas appeared on the nose, and rapidly spread over face, neck, and head. Temperature rose to 103–4°, and pulse became rapid (120) and weak. The erysipelas then spread over the chest, and the mouth now became sloughy; fetid breath was first noticed on November 27th, at which time a slight cough developed, and some bronchitis, which was looked upon as septic. No rigors or sweatings had occurred. From this time the patient became gradually weaker and weaker, in spite of the stimulating treatment, and died suddenly, on December 2d, from hemorrhage. Dr. Shepherd remarked that at the time of the operation, several cases of erysipelas had been admitted into the hospital from outside. With regard to the operation, he felt perfectly satisfied with it, the previous ligaturing of the linguals greatly facilitating the removal of the tongue by scissors, as all fear of hemorrhage was removed, and the scissors left a clean, instead of a bruised, surface, as is seen after the use of the écraseur. The method of operating had nothing whatever to do with the fatal result.

At the autopsy the wound looked in process of healing, and the cancerous masses had been removed. The linguals presented thrombi at the site of ligature. There was a small pocket of pus beneath the left sterno-mastoid. The trachea and bronchi were filled with blood. The right lung presented four areas of circumscribed gangrene, the left two, each about the size of small apples. Placing the lung under water and blowing water through the pulmonary artery, bubbles escaped from one of the gangrenous regions close to the root of the lung. Dissection proved, as the specimen shows, that the hemorrhage came from a small branch of one of the main divisions of the artery, which had been opened in the necrotic process.

MALIGNANT TUMORS AND PARASITISM.—Henry T. Butlin, F.R.C.S., contributes the following to the *British Med. Journal*:

At a meeting of the Pathological Society I expressed the opinion that, not improbably, many of the malignant tumors are due to the presence of micro-organisms; in others words, that malighant tumors are of parasitic origin. The theory of parasitism, applied to tumors, has during centuries been more or less popular with surgeons; for in no other way can some of the most complicated processes of malignant tumors be so well explained, as by assuming that the tumors or their elements are parasitic. But of late years the parasitic theory has been discredited by the discovery that the elements of even the most malignant tumors are derived more or less directly from the natural tissues of the body, and that they differ only in degree, and, perhaps, in certain properties which they have acquired from the natural elements. It is quite clear, therefore, that the view, formerly maintained, that malignant tumors are actually parasites is incorrect. But the recent discoveries of micro-organisms, and of the part they play in relation to certain diseases, have led me to consider whether the theory of parasitism may not again be applied to malignant tumors, with this difference, that the tumors are no longer now conceived to be the parasites, but to contain them. I am perfectly aware that all the evidence which can at present be adduced is only indirect or circumstantial; for, so far as I am aware, no parasites have yet been proved to exist in the malignant tumors of the human subject. But there are two, if not three, directions in which circumstantial evidence may be employed.

First, there is the resemblance of the processes of malignant tumors to those of certain diseases which are due, or are reputed to be due, to micro-organisms.

Thus, the group of infection-tumors,(1) which have lately been attributed to the action of micro-organisms, contains examples of growth which resemble in their processes many of the malignant tumors. Of these diseases, tubercle is so closely allied, in some of its important properties, to sarcoma and carcinoma, that it is difficult to discover any essential difference between many cases of tubercle and many cases of sarcoma and carcinoma originating in the same part of the body. Virchow, in a masterly summary of the characters of tubercle, (1) has admitted this similarity, and has expressed the opinion that tuberculosis is a malignant tumor disease. Infiltration of surrounding parts, affection of the neighboring lymphatic glands, dissemination in other organs and tissues, are the characters which are common to malignant tumors and tubercle. Certainly the small size of tuberculous tumors, the frequency with which they are associated with inflammation, and their tendency to caseation, distinguish most cases of tubercle from most cases of malignant tumor. But large tuberculous tumors, with which neither inflammation nor caseation is associated, are not by any means unknown. During the past few years, actinomycosis, (2) which was formerly regarded as a sarcomatous disease, has been added to the number of the infection-tumors, chiefly, if not solely, on account of the discovery in the large tumor-masses, of what appears to be a micro-organism. Until this discovery, actinomycosis appeared to be a sarcomatous disease, as surely as any other well recognized sarcoma of the lower animals.

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(1) The infection-tumors include leprosy, lupus, syphilis, tubercle, glands, and actinomycosis.

Second, in order to explain the glandular affection and dissemination of malignant tumors, the presence of an infective agent has been assumed by many pathologists.

This agent has been supposed to be cells, or nuclei of cells, derived from the primary growth. It has been thought to be a fluid; and more than once of late years, the term seminium has been employed to denote this unknown infective agent. Many reasons render it improbable that the infective agent, or seminium, is in all instances at least cellular: The large size of the cells in some carcinomata, for example; and the fact that neither cells nor nuclei, both of which are easily recognisable, are discovered in the blood or lymph. Reasons equally strong may be adduced against the theory that the infective agent is a cancerous fluid; among them are the large dilution to which such a fluid would be subjected, and the probability that general dissemination would be produced by a cancerous fluid quite as often and as early as glandular affection.

Evidence has of late been forthcoming which leads to the belief that the infective agent, or seminium, is perhaps molecular or granular. Clauzel (1) has shown that blackish and brown granules occur in the blood, the urine and the vomit, of persons who are suffering from disseminated melanotic cancer. These granules are found in the colorless corpurscles and serum of the blood, and in epithelial cells of the vomit.

Choloris, or green cancer, a round-celled sarcoma, characterized by its green color and rapid dissemination, is said to contain, either in or between the round cells of which the growths consist, large numbers of minute and highly refractile molecules. (2)

Gussenbauer, (3) in an excellent paper on glandular affection, attributes the infection of the tissues of the lymphatic glands to the presence of vast numbers of molecules, derived from the primary disease. These molecules, according to the author, are easily distinguishable from the fatty molecules contained in cancer-cells. They are very small, rounded and pale, and do not take up the staining fluid well. They are found in the lymph-paths, in the reticulum, in the lymph-cells, in endothelioid cells, and muscle cells. In glands secondarily affected by melanotic sarcoma, the molecules are for the most part of the typical melanotic color. To Gussenbauer, these molecules are the fructifying germs (*befruchtende Keime*), the seminium of the carcinoma or sarcoma.

The molecules described by Clauzel, Hubert, and Gussenbauer may of course, be merely products of degeneration of cells of the individual tumors, or of the tissues in which they grow. They appear, however, to differ in certain respects from the degeneration products, as has been shown. Their abundance, their appearance, not only in cells, but in other structures, their occurrence in the fluids during the dissem-

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1 *Krankhaften Geschwülste*, *Vorles*, xxii.

2 Virchow's *Archiv*. Band. lxxxiv., p. 303; *Breslau Ærztl. Zeitschr.*, 1880, No. 12.

1. *These de Paris*, 1874. *Sei* Schmidt's *Jahrbucher*, 1880, Band clxxxv, s. 100.

2. *Archiv der Heilkunde*, 1878, Band xix, s. 129, (Hubert.)

3. *Zeitschrift für Heilkunde*, 1881, Band ii, s. 17.

ination of melanosis, render it not improbable that they are in some way connected with the dissemination, or are indeed, the means by which the disease is disseminated through the body. The size and shape of the molecules induce one to advance one step further, and wonder whether they are the individuals, or perhaps the spores, of a tumor-micro-organism. The manner in which they penetrate into the interior of cells and other solid structures favors this view. And the color of the tumors in chlorosis and melanosis may be, perhaps, explained on this hypothesis better than on any other, for the color-producing properties of certain of the micro-organisms are now well known.

Third, certain circumstances relating to the localities in which malignant disease is prevalent, may perhaps have some bearing on this question.

Mr. Haviland (1) has shown that the mortality from cancer is highest in those districts which are high and dry, and geologically composed of non-retentive soils.

In his *Statistische Mittheilungen über den Brustkrebs*, (Breslau, 1879), Dr. Arthur Henry, speaking of the endemic and telluric conditions which appear to influence the occurrence of cancer of the breast in the region around Breslau, says that it is a striking circumstance that in the upper Silesian mountain-works the disease is exceedingly rare.

A still more singular circumstance has lately been noted by Dr. Hesse, who relates that the men who work in the cobalt mines of Schneeberg are subject to lymphosarcoma affecting primarily the lungs. (2)

The disease attacks men who have been working in the pits for a certain number of years, and few escape when the term of years has been reached. The persons on the other hand who reside in the neighborhood of the pits, but are not employed in them are not more liable to primary malignant disease of the lungs than are persons in mountain districts generally. Dr. Hesse has described some cases of this disease, with details of the microscopical and other characters of the tumors. If, as I have assumed, malignant tumors depend on the presence and development of micro-organisms, the low, damp, close, and warm localities are those in which such organisms might fairly be expected to thrive, while the high, dry, and open situations are just as little favorable to their development. The cobalt pits of Schneeberg, perhaps, contain a tumor-organism which enters the body with the air, but requires for its development and complete action frequent and long contact with the lung-tissue, with such favorable conditions as those afforded by advancing age, etc.

There are, of course, several important objections to the acceptance of the parasitic theory; and since the subject should be regarded in a thoroughly impartial manner, it is only fair to state the chief of those which have occurred to me. Some of them may be easily met, but others are exceedingly difficult to explain away.

In the first place, although scrapings and sections of tumors have been examined during half a century, no tumor-organism has yet been discovered, or at least recognized. To this the answer is, that all our knowledge of the relations of micro-organisms to disease is only a few years old, and that the micro-organisms of the infection-tumors have quite recently been discovered. Because tumor-organisms have not yet been discovered, it by no means follows that they do not exist.

Again, the growths produced by organisms at present known, exhibit for the most part a simple round celled or adenoid structure; and I am not aware of any micro-organism which produces new growths of epithelial structure, or new growths of so singular and complex a structure as that found in many specimans of malignant tumour. If these tumours be produced by the action of micro-organisms, the organisms must act not only upon tissues of many different kinds, but with an influence weakened by being shared with that exercised by the mother-tissue. To explain the resemblance of the secondary tumors to the primary growth, this same influence of the mother-tissue must be again invoked; the micro-organism excites the growth of a tumour, but becomes itself so far infected by the influence of the mother-tissue that, whatever tissues it afterwards affects, it is compelled to transform into structure resembling that of the primary disease.

Malignant tumors are not, so for as we know, contagious or inoculable. But, in truth, all our experiments, and they are very few and incomplete, are far from con-

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1. *Journal of the Society of Arts*, No. 1367, vol. xxvii. 1879.

2. *Archiv der Heilkunde*, Band xix, p. 160; and Eulenberg's *Vierteljahrschrift*, Band xxx, p. 296, Band xxxi. p. 102.

clusive on this point. The inoculability of tubercle has only lately and with difficulty been established; its power of infection or contagion has not yet been clearly proved. Nevertheless, we are gradually coming to believe that tubercle is due to the presence of a micro-organism. It is probable, if tumors be inoculable or contagious, they are so, only under very peculiar and favorable circumstances.

The inheritance of malignant tumors can scarcely be explained on the assumption that they are due to parasites. The inheritance of malignant tumors is supported by evidence which, at first sight, seems incontrovertible, and by men of the first rank as thinkers in our profession. Certain doubts have, however, of late arisen regarding the influence of inheritance; and, if we exclude those cases in which cancer has attacked a large number of individuals of the same family, the general statistics of inheritance will not bear a minute scrutiny. On this subject, Mr. Haviland deserves attention. He suggests that, if whole families were to migrate from the low-lying grounds in the proximity of rivers to high dry sites, we should not hear so much of the hereditary character of cancer. "We never," he says, "hear of ague being hereditary. Father, son, and grandson have ague one generation after another whilst living in an ill-drained fever district; but send them to the hills, and their plague disappears; so may it be with the mother, daughter, and grand-daughter afflicted in their lives with cancer, whilst living from generation to generation under the same climatic conditions, on the same geological site, and on the banks of the same seasonally flooded river."

Again, it may be objected that malignant tumors occur primarily in organs and tissues which are distant from any surface directly connected with the exterior; that, for instance, they grow deep down in the substance of the muscles, in the intermuscular septa, and in or upon the bones. There need, however, be no difficulty in comprehending that organisms, minute and active as the bacilli and bacteria, may be conveyed by the blood to any vascular tissue, and even traverse the structures between the vessels.

Among the facts most difficult or impossible to explain on the theory of parasitism, are the relations of malignant tumors to age. There are, of course, many reasons why certain organs and tissues should be more subject to disease during adult life than during childhood: the organs of generation, for example. But there is no conceivable reason why the epithelium of all parts should be almost exempt from cancerous disease in persons under twenty-seven or thirty years of age, and no reason why the connective tissue of the testis should be more subject to sarcoma in children under ten and in adults over thirty-five than at any other period of life. Neither parasitism, nor any other commonly accepted theory of malignant disease, offers an explanation of these and similar strange features in the life-history of malignant tumors.

RECENT METHODS OF TREATING COLD ABSCESSES.—Theodor Billroth, in *Allgem. Weiner Med. Zeitung:*

When we turn our thoughts to a cold abscess we must first of all place before ourselves the question, Why is not the contained fluid absorbed? and why are we compelled either to await its opening or open it ourselves?

Exudations that arise in the course of acute inflammations, or transitory disturbances of circulation, are indeed usually absorbed; if the general condition of the body is in other ways normal, the absorption of the fluid is the ordinary process. If you have a clear conception of the arrangement of the lymphatic vascular system, you will comprehend this, for the lymphatic vascular system sucks up all these exudation products like a sponge, and carries them all back in the blood channels. Under what conditions, then, does this resorption fail to take place?

1. You may say first that absence of open lymph vessels is a very important cause, and that is just the case with the capsule that in the course of time forms around these abscesses. The walls of the veins can, it is true, take up some of the fluid, but it is the open lymph vessels that are most concerned in such absorption. But even when such open lymph courses are present, they may become closed under certain circumstances, as by an exudation that becomes clotted, in which fibrine forms quickly, and in which the clotting may be continued into the lymph, vessels, or into the interstitial structural interspaces. This is the case to a great extent in croupous and diphtheritic exudations.

2. The resorption is dependent on the degree of concentration of the fluid. If the fluid is to be resorbed, its concentration must be less than that of the blood. This is not the case in cold abscesses. Moreover, the various regions of the body show great differences in their power of resorption: the pelvis is the most favorable for resorption; the most unfavorable is the pleural cavity.

How can we overcome these difficulties therapeutically?

1. The first method would be the removal of the fluid; but experience teaches that the fluid may be removed for the moment, but that the exudative property of the structure does not cease; on the contrary, the cavity refills with uncommon rapidity with pus, this refilling being principally caused by the fact that by removal of the fluid the vessels in the abscess walls are subjected to a greatly reduced pressure.

2. Is it possible by certain irritating agents to excite a greater vascularity in the walls of the abscess?. With this object in view tincture of iodine has been injected, for the purpose of exciting an inflammation, whereby an exudation is certainly set up, but which, in consequence of the higher vascularity thus induced, is readily absorbed, with the result that the cavity shrinks up.

3. This method was necessitated by the opening of the abscess under strict antiseptic precautions. Not only is the pus evacuated, but the abscess cavity is carefully scraped with a sharp spoon, after which an antiseptic dressing is applied. In this way the walls of the abscess, which consist of a mass of soft granulations, are removed as far as the healthy, whereby, by means of a light compress, healing by first intention has been achieved. Indeed, by this method, good results have been obtained in many cases, but it is one that requires to be carried out with great accuracy. Since the introduction of iodoform we have strewn the scraped-out cavity with iodoform in powder, and brought the edges together with the exception of the openings left for drainage. By means of iodoform sepsis is to a great extent avoided, and under certain circumstances granulations may spring up under which healing rapidly takes place.

4. Quite recently we have attempted another method—viz., puncture of the abscess, and subsequent injection of an emulsion of iodoform consisting of 10 parts of iodoform to 100 parts of glycerine. The emulsion must be well shaken up before using; and then, according to the size of the abscess, 20 to 30 grms. are to be injected. In most of the cases in which this method has been attempted the course has been free from reaction, only moderate swelling has taken place, and but little pain has been present. This, however, would only indicate that the treatment has done no harm; it is also desirable that it should bring about the shrinking of the abscess, and that the fluid remaining in the cavity should be absorbed. As a matter of fact, the results in some cases were exceedingly favorable, but further experience is necessary to show whether the iodoform emulsion is still to be continued.

Generally speaking, I should advise you, unless there should be some reason for it, not to open the cold abscess, but to allow it to open spontaneously, especially if you cannot watch over your patients closely. You can then calculate with certainty that the pus will escape without fever and without further reaction, whilst at the same time the entrance of air is completely avoided. In such cases the mechanical relations are extremely favorable, even wonderfully so, without our being able to give an explanation of them, for it happens, for example, that an abscess bursts into the bladder or rectum, and in such cases I have never seen urine or intestinal gases enter the abscess cavity. Under strict antiseptic precautions, and under your constant supervision, you may open the abscess, especially if you suspect with some certainty that you can easily reach the bone from which the abscess springs, or if it causes by its great expansion compression of the neighboring structures, and in consequence of this gives rise to various difficulties.—*Medical Press.*

SALICYLIC ACID AS AN APPLICATION TO EPITHELIOMATOUS GROWTHS.—In an interesting case of rapidly growing epitheliomatous vegetations springing from the floor of a rodent ulcer, Mr. Thomas Smith advised Mr. Howard Marsh to use a saturated solution of salicylic acid as a local application. Mr. Smith said that, some time ago, he had been induced to make use of this remedy in the treatment of simple papillomata, and the result had been so favorable that he was led to apply it to epitheliomatous cases also. In the first case, which had now been under observation for some time, the application was entirely successful, the epitheliomatous growth having been entirely destroyed in two or three weeks.—*British Medical Journal.*

GASTROSNOMY AND DILATATION OF THE ŒSOPHAGUS AND PYLORUS.—On October 24th last, Professor Loreta performed, in the surgical clinic of Bologna, a new and important operation—dilatation of the œsophagus from the stomach. The patient was suffering from stricture at the lower third of the œsophagus, produced by extensive cicatrisation, the consequence of swallowing caustic potash. The site, nature, and degree of the stricture were such as to render useless any operation undertaken by the mouth. The patient was reduced to an extreme degree of emaciation, from the impossibility of taking sufficient nourishment. Gastrosnomy was performed and a passage secured for the introduction of the dilator into the stomach; it was then pushed up the œsophagus, and the stricture thoroughly dilated. The operation only lasted half an hour, and was most successful; on the first day, the patient was able to swallow food easily. The incisions united by first intention; there were no signs of peritonitis; and, on the fourteenth day the patient was well. The sound passed without difficulty, and, probably, its periodical employment will render the cure permanent. On November 4th, Professor Loreta also successfully performed dilatation of the pylorus, in a young woman, aged 26.—*British Medical Journal.*

PROFESSOR TURNER ON "HANDS AND FEET.".—The weekly lecture in connection with the Edinburgh Health Society, was delivered on Sunday, the 5th inst., by Professor Turner, who took for his subject, "Hands and Feet." In commencing a discussion on the hands and feet, it might (Professor Turner said) be advisable to say something of the structure of the body generally. After showing the great importance of the head and trunk, as compared with the limbs, the lecturer pointed out that the limb might be divided into the fundamental parts, one part called the girdle of the limb, which was that part of the organ by means of which it was attached to the trunk. Another part of the limb was the shaft, which gave length to the limb. The third part of the limb was that which was found at its end, and was called its free end. This terminal part of the limb was either the hand or the foot, as the case might be. The girdle and shaft of the limb might be regarded as quite subsidiary in their function to the hand and the foot, the girdle and the shaft being so arranged as to bring the hand or the foot in to the best position for performing that use or function which it had to perform. In the human body the limbs were called the upper and lower. The primary use of the upper limb in man was to act as an organ for grasping and holding—that was what was technically called the organ of prehension. The secondary use of the upper limb was as an organ of progression; but it was only seldom that it was used for this purpose, as in swimming or climbing a tree. In the quadruped, the fore limb was used for support and progression, and was variously modified in different animals, in order that it might be adapted for enabling them to move about from place to place. The lower limbs in man were the organ of support and suppression, although, secondarily, they might be used as organs of prehension, because we could grasp objects with the toes. In attempting to give a definition of the foot and hand, it was not sufficient to look merely at the human body. It was impossible for us, in the study of the structure of man, to dissociate his structure from that of those animals which approached most closely to him in bodily organization. The hand and foot were not purely human structures, so that in giving a definition of them they must look at them from two points of view. They might look at them anatomically—from the point of view of their construction; or physiologically—from the point of view of the use or function to which they were put. Perhaps in addressing such an audience, it might be better if he looked at the subject from the physiological rather than the anatomical standpoint. The human hand was the highest type of hand. Let them think for one moment of some of the things which has been done by the human hand when inspired by an efficient brain. It had built the pyramids of Egypt, in all their symmetry and massivness; it had produced in metal filagree work, and in thread lace work, which rivalled in their delicacy and beauty the fineness of the gossamer; it had modelled in marble the Venus of Milo, a figure which in its form and proportions embodied the highest type of female grace and beauty; it had depicted on canvas, in the great picture, Madonna, a countenance filled with the mystery of humanity. When they contemplated work so wide in its rage and so varied in its character, they were naturally tempted to ask what was the construction and mechanism of the human hand, which enabled it to be applied so effectivly for the discharge of work which in one direction required the exercise of great strength and freedom of movement, and in the other delicacy and lightness of touch, combined with movement so fine as to be almost imperceptable. Looking at the human hand; they might say that it cansisted primarily of three parts—the wrist, the palm and the digits, which were five in number. This was the highest number found in the human hand, or in the corresponding region in quadrupeds. To each of these digits in the human hand a special name was given. The thumb, although the shortest, was the thickest and most powerful of all the digits. It was called by the Latins *pollex*,, and it has also received the name of *digitus doctus*, the skilful digit. Indeed, the power of the thumb was recognised in familliar speech. One man, for instance, was said to have another man "under his thumb"—that was to say, he had complete power over the other man. The next digit to the thumb was the index finger, with which men pointed or beckoned. It was the most movable finger, and that was the reason it was used as an index or beckoner, The middle finger was very important on account of the length it possessed. The next was the finger on which, on the left hand of a woman, the wedding ring was placed, and they might, perhaps, ask why it was that this particular finger had been selected for applying this very important article around. The practice was a very old one indeed, going back to classical times. This finger was selected because it was believed that a nerve passed directly from the ring finger on the left hand to the heart. (Laughter.) He need scarcely tell them that no such nerve had ever been seen. Last of all, was the little finger, which was the least important of the digits. Looking at some of the properties of the hand, they found that they might be stated as follows: It possessed flexibility, elasticity, mobility, sensitiveness of touch. These properties were due to the number of bones and joints it contained. Eight small bones entered into the formation of the wrist, five into the palm, and fourteen into the small digits, so that the number of bones in the limited region of the hand, far exceeded the number found in the girdle and shaft—in the former there being only two bones, and in the latter, notwithstanding its great length, only three. Having explained, at considerable length, the anatomical structure of the hand, and the way in which its movements were controlled, Professor Turner, in conclusion, said that in a man the limbs were specialised for the performance of distinct and definite duties, and in accordance with he law that the part was set aside for the performance of special duty, each limb was constructed so as to be adapted most efficiently to perform that particular work which it had to do, The lower limb could be straightened at both the hip and the knee-joints so as to be brought below the body, and the sole of the foot could then be so planted on the ground that we could stand either on one foot or both feet. The spine could be elevated so that its axis became vertical, and the body remained in an erect attitude, an attitude which was characteristic of man. The head was balanced on the summit of the spine, and could be moved to and fro so that the eyes exercised a wide range for vision. Then the head had a brain far more highly organized than was possessed by any other animal. The upper limbs, liberated from the necessity of acting as organs of support and progression, could minister to an intelligent mind, and through their strength and adaptabillity could enable man to fulfil the great command which was imposed upon him in the beginning to "Go forth over the earth to subdue it, and to have dominion over the fish of the sea, over the fowl of the air, and over every living thing that liveth upon the earth.—*Medical Press*.

SENATOR ON PARALYSIS OF THE FIFTH NERVE.—A man aged thirty-nine (*Archiv f. Psych.* Bd. xiii., p. 590) presented the following symptoms:—Complete anæsthesia of the left half of the face, mouth, and nose; loss of taste in the anterior part of the left side of the tongue; anæsthesia of the left cornea and conjunctiva, there being no blinking on touching the left eye, but if the surface of the right eye was touched, the eyelids of both eyes closed, and the ordinary blinking movements of both eyes occurred as in health. Left conjunctiva much injected, cornea softened and opaque, tension of the globe diminished. The only impairment of mobility was paresis of the left masseter. The diagnosis was lesion of the left trigeminus at some point between its exit from the pons and the gasserian ganglion. The patient gradually improved under the use of iodide of potassium, dry cupping, and blistering, but there appeared from time to time slight and transient swelling—first of the left knee-joint, then of the right knee-joint, and afterwards of both ankle-joints.

Senator regards the above as a case of neuro-paralytic keratitis, and makes some observations on this affection. Clinical facts oppose the theory of external irritation as the cause of the phenomenon, and the present case shows that the eyelids on the affected side still afford a considerable protection to the eye. Clinical facts equally oppose the idea that the arrested flow of the lachrymal secretion and the consequent drying of the cornea cause the opthalmia. The only feasible explanation is that the appearances are due to some influences acting on the nutrition of the tissues, whether through the vaso-motor nerves or through actual trophic nerve fibres is not known.

Senator adduces this case in proof of the old view that the gustatory fibres of the chorda tympani take their origin in the trigeminus. The swelling of the joints he attributes to a vasomotor or trophic disturbance; it certainly was not a rheumatic affection.

HISTOLOGY OF NERVES.—All anatomists agree that nerves are observed at a very early stage of embryonic life, and that they develop from the centre to the periphery. The development of the nerve-tube has been especially studied in the membranous plate of the tail of the tadpole.

M. Vignal, formerly assistant in the Physiological Laboratory of the University of Edinburgh, and now of the College de France, in a memoir (*Archives de Physiologie Normale et Pathologique*, March 15th, 1883, No. 4) on the formation of nerves-tubes in the embryo of mammals, states that his researches lead him to the following conclusions: 1. Nerves develop from the centre to the periphery. They present the aspect of fine fibres and granules placed in succession one after the other, and are immersed in a homogenous substance. These bundles are covered at their periphery by connective embryonic cells which later proliferate and penetrate into the nerve-bundles; there they multiply, split up the fibrils into small bundles, and are applied to their surface. These connective tissue-cells are, at this stage of nerve-evolution, distinguished from ordinary connective tissue-cells by the length of their longitudinal diameter compared to the transverse diameter. The most important constitutional parts of the nerve-fibres are now formed because the bundles of fibrils, surrounded by protoplasm enclosed in an envelope, constitute the axis-cylinder.

2. Later, towards the fourth month of gestation, that is to say, the epoch that corresponds in the embryos of cows and sheep to the fourth month of the human embryo, myeline appears in the protoplasm which surrounds the axis-cylinder, and at the beginning is but slightly differentiated from it. Myeline presents the appearance of a thin lamina, which extends throughout the whole length of the interannular segments; more rarely that of balls, or of isolated granules, distributed along the nerve-fibres. The medullated fibres now present all the characteristics of adult fibres, the protoplasm develops, and often occupies more space than does the myeline; but it is always present in a larger quantity than in adult medullated fibres.

In another memoir, M. Vignal states that nerve-tubes not only increase in length by the lengthening of the axis-cylinder of the interannular segment, as in the larger tubes, which, in adult rabbits and dogs, as Ranvier has shown, are three times longer than in the new-born animal, but he has observed them lengthen by the development of new segments. The process of this formation is very curious. The periphery of the tube is the only part newly formed.

In an advanced embryo, or in a young animal, the nerve-fibres between two segments sometimes presents cells containing an oval nucleus surrounded by protoplasm enclosed in an envelope; other cells, generally longer and larger, contain drops of myeline; finally, small interannular segments appear; these are very short, at least a hundred times shorter than the majority of the segments, and are limited by two well-marked annular constrictions. This length of segment and the ordinary length may be regarded as the two extremes. An entire intermediate series varying in length may be observed. The formative process of these intercelated segments is more especially observed in the last stage of embryonic life and during childhood. Towards the adult age, it gradually disappears.

M. Vignal proposes calling these segments intercalated segmens. He holds that the supposition that they are due to the proliferation of the cells constituting the pre-existing interannular segments cannot be admitted; there is not the slightest evidence that such a process takes place, nor is there that the connective cells which surround the axis-cylinder towards the third month of embryonic life, and which develop more slowly, form the intercalated segments; though the intercalated segments more or less developed are numerous, the cells which constitute them are scarce; it must therefore be admitted that their formative process is the same as that of ordinary segments; connective cells are applied to the surface of the axis-cylinder at the point of junction of two interannular segments, and loosen the cement that reunites the two segments of the sheath of Schwann which limit an annular construction. The axis-cylinder submitted to the influence of these cells increases more rapidly at this point than at others; the cells undergo the transformation already described.

M. Renaut had previously observed, in the nerves of adult solipeds, interannular segments, measuring only the third, fourth, or half the usual length. He believed them to be due to the proliferation of former segments, and destined to replace those which have reached the limit of their vitality. M. Vignal does nat accept this interpretation, but believes the interannular segments observed by M. Renaut to be ordinary segments invested in their development.—*British Med. Journal.*

De Jonge on the Tumor of Medulla Oblongata with Diabetes Mellitus.—In this case (*Archiv f. Psych.* Bd. xiii., p. 658) a tumor the size of a small bean, and consisting of a tubercle oblongata; it reached from just below the olivary body to the first cervical nerve, and destroyed the substantia gelatinosa of the posterior cornu between these two limits. All other parts of the medulla and cord were intact. The case was one of tuberculosis of the lung and mesenteric glands, in which diabetes was a subsequent and secondary symptom, and the author argues that the tubercle in the medulla oblongata was the cause of the diabetes. He cites eleven cases of diabetes with lesion of the medulla oblongata and neighbouring parts, in all of which the lesion was situated considerably higher than the tubercle in question, and he concludes that the tubercle did not affect the so-called diabetes centre itself, but probably implicated the nerve strands in their course from it to the periphery.—*Brain.*

Diagnosis of Cancer of the Liver by Frequent Hemorrhages from an External Cancer.—In a recent clinical lecture Verneuil, of Paris, makes the assertion that frequent hemorrhages from the ulcerated surface of an external cancer indicate disease, generally cancerous, of some internal organ, most frequently the liver. He warns against operative interference in such cases without having made most thorough examination of the internal organs, as operation only hastens the internal trouble.—*La Semaine Med.*, 12, 7, '83, *N. E. Med. Monthly.*

Schwarz on the Skin and Tendon Reflexes.—In this paper (*Archiv. f. Psych.* Bd. viii., p. 621), Schwarz endeavors to support, on clinical grounds, the theory that the different spinal centres are related to different brain centres, and that the varying condition of the various spinal reflexes is due to the varying condition of the corresponding brain centres. He points out that where the brain centres are in a state of excitation, as in cases of cortical epilepsy with descending degeneration of the motor tracts (he reports several cases) there is increase of the tendon reflexes, especially directly after the motor discharge; the patellar reflex being generally increased on both sides, the ankle phenomenon being only observable on the side of the convulsions. The skin reflexes are increased, except after very severe convulsions, when they are diminished or absent. In cerebral hemiplegia the tendon reflexes are absent when there is simply paralysis, but heightened if the lesion has produced irritation of the motor strands. The best index of an irritative lesion of the motor strands is the heightening of the tendon reflexes; it often precedes the appearance of contracture by several days. The skin reflexes are always absent or much diminished.

Schwarz distinguishes between the achilles-tendon reflex and the ankle clonus. He relates a case in which passive dorsal reflexion of the foot produced ankle-clonus merely, while percussion of the achilles-tendon produced, in addition to plantar flexion of the foot, general muscular spasms of both legs. The paper concludes with an examination of the various theories that have been offered in explanation of the phenomenon of the tendon reflex.—*Brain.*

THE MICRO-ORGANISM OF GANGRENOUS SEPTICÆMIA.—Messrs. Arloing and Chauveau communicated, in July last, to the Société des Sciences Médicales de Lyon, the results of their researches on gangrenous septicæmia. They are of opinion that the disease is caused by a special bacillus, which they have found around the wounds and on the phlyctenæ. The bacillus has the form of a short rod, provided with one or two spores, and can be inoculated by injection. Tissues deprived of their vitality or disorganized by hemorrhage, are most favorable to its action and reproduction. When fresh, the bacillus can be destroyed by a temperature of 90° to 100° C.; but, after desiccation, a temperature of 120° C. is necessary. Sulphurous acid and a warm solution of carbolic acid (5 per cent.) are, after heat, the best means of destroying this micro-organism.—*Brit. Med. Journal.*

MISCELLANY.

PHOTOGRAPHY IN HOSPITALS.—Most of the French hospitals, according to our contemporary *Engineering*, have now a photographic studio attached, for photographing the sick persons at different times. The rapid dry plate process is employed, and Professor Charcot, of the Salpetriere, has devised an electrically worked camera, which is very useful in taking a series of views in rapid succession. Certain classes of patients are photographed on their entry into the hospital, and at regular intervals afterwards. In cases of hysteria, for example, it is interesting to note the original contractions, and compare them with succeeding ones. The photographs are placed in an album for study of the disease, and comparison of others taken from other patients. In this way the leading features of the disease will be recognized. The new printing processes also enable these photographs to be copied, and distributed to other hospitals and medical men. Microphotography, or the photographing of microscopic objects, is also a valuable branch of hospital work which is becoming better recognized every day. The apparatus of Professor Charcot consists of a camera with a movable aluminium shutter, controlled by an electro-magnet and clockwork. A key and battery send an electric current through the magnet at the will of the operator, and working the shutter exposes an objective to the object. The photographer controls the apparatus by his hand, and, with his finger on the key, watches his patient until the desired moment arrives, then presses his finger, and exposes the plate for the instant required to take the likeness. When a regular series of views in rapid succession are required, the hand-key is replaced by an insulating barrel, set round with metal contact-pieces like a commutator, and these pieces make contact with a contact-spring as the barrel revolves by clockwork. These metallic pieces are made of a triangular form, so that, when a short exposure is required, the spring is placed so as to cover them towards the apices of the pieces; and, when a longer exposure is required, it is caused to rub over them near the bases. The metronome, or automatic mercury current-interruptor, of M. Gaiffe, is also applicable to this camera as an automatic key.—*British Med. Journal*

UNINFLAMMABLE DRESS MATERIALS.—At this season of the year we are accustomed to hear of sad fatalities arising from the accidental ignition of the highly inflammable materials which usually compose the "dresses" of females. Although many practical suggestions have been made from time to time with the view of popularizing uninflammable dress materials, the use of such incombustible articles of apparel does not appear to have found favor with the fair sex. Tungstate of soda has been the material most frequently employed to render light fabrics uninflammable; it fulfils the purpose admirably, but its high cost has been an objection to its use. Patera's formulæ have stood successfully frequent trials of their efficacy. One of these preparations is made by dissolving three parts by weight of biborate of soda, and two and a quarter parts of sulphate of magnesia, in twenty parts of water. Fabrics soaked in this solution become coated with a borate of magnesia, which is insoluble in hot or cold water, and is a good resistant of fire. The other preparation is a mixture of sulphate of ammonia with sulphate of lime, or gypsum, in proportions of one part of sulphate of ammonia with two parts of gypsum. The gypsum is said to form with the ammonia a double sulphate which has not the disagreeable properties of the ammonia-salt. The action of this preparation seems to be two-fold—first, in coating the fibres of the material to be protected, and also in the production, when the material is brought to a red heat, of volatile ammonia, which tends to smother flame.—*British Medical Journal.*

New Names for French Hospitals.—There is at present a disposition on the part of the Municipal Council of Paris, to effect a change in the names of the Paris hospitals. Many of the lycées have long since borne the names of persons connected with the Republic, and ceased to retain the names of their founders. A proposal has already been made to deal with the hospitals in a similar way, and to go so far as to suppress even such unpolitical titles as "Pity" and "Charity," and to substitute for them "Solidarity" and the "Rights of Man." The "Hotel Dieu" will henceforth be "Ambroise Paré;" "St. Louis" and "St. Antoine" are to bear the names of "Boerhaave" and "Velpeau" respectively. Its proposer, Dr. Fiaux, is the author of "The Commune and the Civil War," and a member of the Municipal Council. The press are loud in their protests against this sweeping change of nomenclature, the *Voltaire* not excepted.—*Brit. Med. Journal.*

The St. Louis College of Physicians and Surgeons is in the full enjoyment of an internecine war. It appears that the majority of the members of the faculty were disatisfied with the management of the institution, and sent a petition to the Board of Trustees some time since asking that they be allowed a voice in the affairs of the college. The board, however, met the request in a manner offensive to the petitioners, whereupon they—eight in all—sent in their resignations, leaving only the dean and two professors remaining in the faculty. The students of the college passed resolutions pledging themselves to support the seceding members, and to leave the college in a body if the faculty left. Up to the present time, however, the resignations of the faculty have not been accepted, and they still deliver their regular lectures, and will probably continue doing so until the end of the term. The aspect of the war, as it now appears, is felicitously described by a local paper, which says: "The college presents the curious spectacle of an institution, the large majority of the faculty of which has resigned and yet continue their lectures, and of a student force who have left in a body and yet attend the lectures."—*Weekly Medical Review.*

Proportions of the Sexes.—The new census-figures giving the relative proportions of the sexes are very striking. Out of a total population of twenty-six millions, females are in excess of males to the extent of nearly seven-hundred thousand. Yet, at birth, the males are in a majority. Within a year, the balance turns the other way, and so continues until the period between ten and fifteen years of age, when the males are again the greater number. But the ascendency is only temporary; and in the next five years, the strength of numbers is with the female sex, who retain this position until the close. In the advanced periods of life, the numerical superiority of the gentler sex is specially manifest. At the figure of "95 and upwards," we find the females more than twice as numerous as the males; while of the 141 persons who are recorded as having attained the age of "100 and upwards," ninety-seven, or 68 per cent., are females.—*British Medical Journal.*

Progress in Cremation.—Cable reports from Portugal state that it has been decreed that, in all the municipalites, the cemeteries shall be emptied every five years, and the bodies be publicly cremated.

M. Brouardel, in a report on cremation to the Paris Council of National Health states that he considers cremation to be opposed to the interests of justice. Crime would rest undetected, and the wrongly accused could not be exhonerated. During epidemics, the danger would be increased rather than lessened by the practice of cremation, inasmuch as the different processes require longer personal contact than does simple burial. The Council has adopted M. Brouardel's views and voted against cremation. M. Kochlin-Schwartz, president of the Society of Cremation, has addressed to the prefect of police the following objections to M. Brouardel's statements: "After cremation, traces of mineral poison are detected in the ashes, and these are always preserved. Vegetable poisons would escape detection; but equally so after inhumation, when the body would be decomposed. In cases of cremation, personal contact is not more prolonged than in ordinary burial. The chief difference lies in the fact that in one hour the body is destroyed by fire, instead of undergoing slow decomposition, and giving off pestilential miasmata to poison the neighboring population.—*N. Y. Medical Record.*

Charlatan.—The *Apotheker Zeitung* gives the origin of this word as follows: In the olden time, when the doctors were not in the habit of riding about, their homes were hospitals, and they did not leave their patients.' At that time a genius made his appearance in Paris. His name was Latan. He procured a small one-horse wagon (*char*), upon which he packed his medicines for all possible affections. With these he drove through the streets of Paris, crying out his wares and looking for patients. He was the first driving doctor, and soon became renowned. Whenever he came along, the populace greeted him with, "Voilá le char de Latan." This was soon abbreviated to "Charlatan," which at that time denoted a driving doctor. —*Medical Press.*

Dental Hygiene at School.—According to M. Galippe, dental caries is frequent in boys and girls preparing for examination, and may be ascribed to the excessive efflux of blood to the head. Others suppose that the brain makes use of the phosphates which ought to be employed in the formation and growth of the teeth. M. Harlan is of opinion that dental caries is most frequent in young people who work hard, and are very successful in their examinations.—*British Med. Journal.*

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EPILEPTIC INSANITY.

A paper read before the Academy of Medicine, February 4, 1884, by

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The epileptic is doubly afflicted. In addition to his deplorable bodily malady he is usually doomed to an early mental decay. True, history furnishes some noted names, as Cæsar, Mahomet, Napoleon, who are said to have been subjects of this disease; and, probably, epileptics are known to many of you who, apparently, retain their intellectual powers. But, nevertheless, in the majority of cases epilepsy causes a gradual but sure downfall of mind.

The character also changes under the influence of this disease. Both the character and the mental impairment are often so characteristic as to be immediately recognized by the experienced physician. The patient assumes a constant religious tone and air which are exceedingly superficial. He is, at the same time, very irritable and suspicious. The slowness of apprehension and forgetfulness, the first symptoms of mental impairment, are at first only present during a shorter or longer time following an epileptic paroxysm. We have then the singular anomaly that, with a fair memory for passing events, there are intercurrent periods of whose occurrences the patient has almost no recollection. The failure of intellect is often directly due to the paroxyms, shown by the fact that when the latter cease to appear, or become less frequent, as the result of treatment, the intellectual powers again become more vigorous.

The condition which we have just portrayed might very well be termed epileptic dementia. We will not speak further of it here. It has been mentioned in order that it may not be confounded with quite another psychic disorder, which it is the special object of this paper to discuss, true epileptic insanity.

Epileptic insanity, just as the epileptic convulsive seizures, comes on in paroxysms. It is of special importance and interest to the general practitioner, because it usually comes directly under his observation rather than in the charge of the alienist, and because of the seriousness and danger of the paroxysm itself. For the attack, sudden in its onset, and usually short in its duration, is often the explosion of the most violent fury, threatening the life of its subject or of those about him. The epileptic is the most dangerous of maniacs.

These outbreaks of insanity are, as just mentioned, usually periodical, and they are generally in immediate connection with a convulsive seizure. They most frequently occur after a convulsion, but they may occur before, and, not infrequently, they appear to take the place of an ordinary epileptic paroxysm.

Epileptic insanity presents a great variety of clinical pictures. Of these we will attempt to portray a few of the most striking ones, and then point out some general features most characteristic of such attacks.

The simplest form of psychic disturbance is the fit of momentary absence of consciousness. The patient is aware that there was a momentary blank in his mind, though he may have continued automatically the action with which he had been occupied. Thus Trousseau (1) mentions a musician who was often thus attacked in the act of playing, yet the latter was continued even during the interval of unconsciousness. Hughlings Jackson reported the case of a woman thus seized while in the act of cutting bread; the cutting was continued, and she inflicted a deep wound in the hand. One of the companions of my youth was subject to these momentary absences. He was often attacked while climbing trees or in other dangerous attitudes, without sustaining injury. He was always aware afterward that there had been a blank in his consciousness. He, at a later period, became subject to severe convulsive seizures, became partly demented, and died of an intercurrent disease.

A common trait of the more prolonged psychic disturbances is a tendency to wander aimlessly about. A patient in my charge, some years ago, was frequently found many miles from home, and when returning to full consciousness was always surprised to find herself in a strange locality, being entirely unable to account for her presence there.

But a more common and most dangerous form of these epilectic mental disturbances is now to be described. The patient's mind is entirely clouded, he is filled with an indescribable and intense sense of anxiety and terror, his actions are impulsive, apparently motiveless, most violent, and rife with danger to himself or others. It is usually epileptics in this condition who cause the most appalling disasters, suicide, homicide, or other dire calamities.

We will now mention other forms of these paroxysms which are far more puzzling. The consciousness is not so much clouded. The conduct of the patient may appear so intelligent and reasonable, that it may not be detected that his mental condition is different from the normal. Nevertheless such periods have the stamp of the epileptic seizure, in as much as the most extravagant acts may be performed, and the occurrences are afterwards entirely or almost entirely forgotten. In the lighter forms there is only a slight cloudiness of the consciousness, perhaps a confusion of ideas from a too rapid flow of thoughts, or a feeling of despondency with anxious forebodings, or the patient feels an impulse to perform some strange or wild act while he is fully conscious that his condition is abnormal, and tries to check his impulsive action. At the same time he answers properly any question put to him.

In severer forms the mind is more clouded. The actions of the patient are unlike those of his ordinary life, and in contradiction to his character. He acts like a somnambulist. After the attack he has lost all memory for its occurrences.

Trousseau mentions a lady of very refined habits, who, during such a seizure, is unusually witty, makes obscene remarks, etc., of all which she is much surprised to hear afterwards.

Samt (2) mentions a man, who, during such a paroxysm, acts the circus clown admirably.

Echeverria (3) gives an interesting account of a young man subject to such attacks: "One evening he went into the street, took a horse and buggy which he found in front of a house, rode over a mile and a half to his father's grave, pulled the flowers from the bushes planted over it, and brought them home to his mother, whom he invited to take a ride. Being asked where he procured the horse and buggy, he replied that he found them lost on the street. His mother directed that he leave them forthwith in a livery stable, that they might be returned to their owner. He started to do so, but left them at the stable as his own. When discovered by the owner, the transaction was looked upon as larceny, thereby causing great mortification and annoyance to his family. The boy, however, could never account for his conduct, and forgot completely every circumstance connected with it."

At another time the same patient, while in such a fit, was engaged by a shipping agent to go as a sailor on an English vessel. A few days after the vessel departed, on coming out from the state of epileptic insanity, he was surprised to find himself on a vessel for London, being completely ignorant how he came there.

Lasegne (4) reported the case of a man of high social standing, who, while in a perfumery shop, pocketed various small trinkets lying on the counter, and went away without paying for them. He was afterward arrested, but knew nothing of the transaction.

I will mention but one instance more in illustration of these varying forms, a patient seen by myself, some years ago, in Professor Meynert's wards, in Vienna. The patient had religious visions, gave utterance to what might have been deemed to be prophecies. The case was of interest because it was doubtless like some others which have at different times misled superstitious people. It is not difficult to understand how such an epileptic, with his fervid utterances, his whole being elated, might be looked upon as possesing true prophetic gifts by the ignorant and superstitious.

We will now mention some of the characteristic features of these seizures, features common to many or to all of them. These are chiefly, the acute onset, the either partial or complete obliteration of consciousness, the sense of anxiety often extreme, the impulsive blind actions, and the almost complete forgetfulness of what has occurred during the paroxysm.

Of importance, and almost characteristic in many instances, is the nature of the delirium. There is often something mystic in the delusions, the utterance of some religious word; God, etc., even when the consciousness is so completely clouded that no other words are pronounced; or there is great difference between uttered words and actions, as words denoting anxiety, while the patient smiles. In some instances, when the thoughts appear to be lucid, there is an absence of knowledge of very simple things, as of the day of the week, very recent occurrences, etc. Thus a careful study of the condition during a paroxysm, will often enable the experienced physician to form a correct diagnosis, even when there is no knowledge of the previous history.

Let us briefly analyze the mental condition and more closely scrutinize some of its elementary parts.

The first and most important element is the affection of consciousness. The latter is always affected—a fact which gives us a key to otherwise incomprehensible conditions. In some instances there is complete unconsciousness, and any act then performed might be termed purely automatic. In others the consciousness is only partly obtunded.

The anxiety and terror often felt, and the impulsive actions are worth more careful study. Hallucinations and delusions are often present in a paroxysm. These are of the most diverse kinds, sometimes giving origin to the most absurd acts, not infrequently they are like those of the delirium of grandeur. But generally they are of a frightful kind and, in so far, produce or foster the anxiety and terror or the impulsive actions. Yet the latter are not to be altogether thus explained. It may be impossible to detect such delusions.

The epileptics often have in their paroxysms a feeling of intense discomfort and distress from the condition of the generally sensibility. This is perhaps the chief cause of both the anxiety and uncontrolable impulses. So the anxiety often appears to be a primary element, and the violent impulsive acts instinctive, and quite independent of mental judgments.

The most singular feature is the entire forgetfulness. Acts, which to the lookers-on, seem to be the result of a fully conscious intelligence, are afterwards entirely unknown to the performer. But the oblivion is not always so complete. It not infrequently happens that a patient can remember all the occurrences of a paroxysm immediately after it is over, while he has completely forgotten them after a short interval of time. Still more singular are some cases of partial memory for such occurrences. Samt reports two patients who recalled some of the events occurring during a paroxysm, while they had entirely forgotten others.

In this entire forgetfulness, epileptic insanity distinguishes itself from most other mental diseases. Acts performed in delirium from other diseases may be remembered afterwards. Magnau (5) mentions two interesting cases, in which epileptic paroxysms occurred during alcoholic delirium. One who had been previously delirious, when the epileptic paroxysm occurred tried to hang himself. When he recovered he remembered the alcoholic delirium, but would not believe the statement that he had attempted to hang himself. The second patient was taken from the street while in the epileptic attack. He believed he was Henry IV, that people prostrated themselves before him, etc. After being removed to the asylum, he saw cats, rats etc. When he recovered he remembered his alcoholic delirium, but knew nothing of his regal pretensions.

Another strange feature not mentioned, but which often has much practical value, is the fact that the delirium in the different paroxysms of the same individual is often nearly the same. The very words and acts may recur in almost a stereotype form. It would be interesting to know to what extent thoughts, which are uppermost during a paroxysm, form a part of the ordinary thinking in the intervals. Doubtless, in many instances, thoughts most familiar to the mind in the lucid intervals, recur in the paroxysms in a more violent form. But nevertheless the patient must not be held responsible for acts then committed, as he appears to have lost all controling power.

Did time permit, it would be interesting to attempt an explanation of some of these strange phenomena, especially the forgetfulness and the great similarity of paroxysms in the same individual, or to consider what light, the study of these psychic phenomena might throw upon the general theories of epilepsy. But such considerations. which would be largely speculative, must be omitted in this brief sketch to make room for more practical matter.

The duration of an attack of epileptic insanity varies greatly. It may be only momentary, more frequently it is a few hours or days, rarely it continues several weeks. It closes usually as abruptedly as it began. But the beginning, though abrupt, is often preceded by a change in the general condition of the patient. Frequently the patient is very irritable and despondent for several days preceding the mental explosion. This period, too, may be fraught with danger as we will see later.

An aura often foretells the immediate outbreak. This aura, though constant for the same individual, varies as much as that with the usual convulsive seizures. It sometimes seems to be the perception of the condition which preceded the first paroxysm. Sommer (6) mentions the case of a little girl who, from fright at seeing a dog spring towards her, was seized with a first convulsive seizure. Afterwards every paroxysm was preceded by the vision of a large dog springing toward her.

In another case, a man epileptic for many years, the patient saw one and the same landscape, otherwise unknown to him, just before each paroxysm.

The frequency of epileptic insanity can not be stated with any degree of certainty. In the majority of epilepitics the mind becomes impaired, but a far less number ever become epileptic maniacs. Reynold judged from his observations that about one-tenth of those subject to epilepsy have attacks of epileptic insanity. But according to general experience probably a larger number are thus affected.

It has long been believed that attacks of so-called *petit mal* or epileptic vertigo are more frequently followed by failure of the intellectual powers than attacks of *grand mal*. It is not improbable that also attacks of insanity more frequently follow the slighter than the greater convulsive seizures.

Insane attacks are generally found only after the patient has been subject to ordinary epilepsy for a long time. Falret states that such an attack is most likely to occur when a quick succession of convulsive seizures has followed a long quiescent period. Nevertheless the attack of insanity in some instances appears to be the first manifestation of epilepsy. Yet in such cases a careful examination will often reveal the former presence of the unrecognized disease. Thus Magnen reports a case where a man, who had been supposed by himself and others to be perfectly well, in an insane attack killed a comrade for whom he had previously manifested the greatest affection. A subsequent examination revealed the indubitable evidence of previous epileptic seizures. The patient often had bruises that he could not explain; he had evidently had frequent attacks of unconsciousness, whose significance was entirely unknown to him.

Such paroxysms recur with varying frequency. In some persons not more than one attack is observed. In others they occur frequently. They can often be made less frequent or to cease altogether by appropriate treatment. In many old cases, especially where there is complete dementia, they frequently cease to appear.

We must now briefly consider the medico-legal aspects of our subject. When individuals are known to be afflicted with this disease, and an entirely motiveless act of violence has been committed without effort at concealment, there can be no question of accountability or punishment. But the matter is by no means always so simple. We have seen that patients are sometimes in an apparently lucid condition; yet they should not be held responsible for acts then committed, shown by the fact that they may be in complete variance with their usual conduct, and are entirely forgotten afterwards. But acts committed at such time could very easily be misjudged. The case reported by Echeverrie, already mentioned, of a boy taking a horse and buggy from the street is a good instance of this. Magnen also reports an interesting case in point: A man being found wandering aimlessly about, was arrested. He at first spoke lucidly. But when brought before a magistrate he threatened and then attempted to injure him, for which he was condemned to two years' imprisonment. The next day he knew nothing of the whole occurrence.

Thus it may happen, if it be the first known paroxysm, or the previous history is unknown, that it will be impossible to determine the true state of things.

We have already mentioned that a paroxysm is often preceded by a change of character and disposition of a few days' duration. Crimes committed at this period are more difficult to properly estimate.

A few years ago a case of this kind appeared before the Cincinnati Courts. A young man had been epileptic for several years. The disease had caused some enfeeblement of the mental powers. He had attacks of insanity, which usually followed a convulsive seizure. But the latter was always preceded by a very irritable and depressed mental condition. At one time, while in a trivial quarrel with a companion he shot the latter. A few days subsequently he was found in a state of stupor. There was every evidence that this was a post epileptic stupor. The crime was committed while the patient was in that morbid condition of mind, which preceded a paroxysm. Patient remembered afterwards the quarreling and the shooting. He had, naturally, no knowledge of the convulsion and the subsequent stupor. So the crime was committed while he was in a mood where he was more easily provoked to passionate acts than normally, but he was fully aware of what he was doing. To what extent should he be held accountable for this act? Here we approach a question which can not yet be appropriately answered either by law or medicine. We can not place an exact limit where responsibility begins or where it ends. In this instance the judge wisely consigned the man to confinement for purposes of public safety, rather than for criminal punishment.

What should be done with epileptic maniacs is a perplexing and difficult question. It is unavoidable that many move unrestrainedly in our midst, who may at any time become dangerous to society. Even those who have had paroxysms of a dangerous character and in whom others of a like kind may be expected, can not, in many instances, be kept in perpetual confinement. For, at least, with the present general arrangement and management of our asylums, individuals can not, usually, be indefinitely retained, who are ordinarly perfectly sound in mind, and only at long intervals have very short attacks of insanity.

But, at least, it is well to remember what cases are most dangerous. We must remember, a fact already mentioned, that paroxysms usually recur in the same form, and when a dangerous one has preceded, future ones of the same kind must be awaited. Fortunately, in some instances, one can foretell the explosion a sufficient time to guard against its dangers. But if this does not occur, those, who are subject to paroxysms of a dangerous nature, should, if possible, be under constant surveillance.

As to the treatment, I need add but lttle, The therapy of epileptic insanity is exactly the same as for ordinary epilepsy, and that, you know, is the bromides *per excellence.* Though the extensive experience with this drug has failed to realize the bright hopes once entertained for it, it has nevertheless proven by far the most valuable means in treatment.

Meynert, whose experience in this disease, has scarcely been surpassed, recommends only the Bromide of Potash. He begins by giving one gram (15 grains) three times a day, and increases the daily quantity by one gram every time there is a recurrence of a paroxysm. He says the medicine appears sometimes to have no affect until a certain dose is reached, when it apparently entirely controls the disease. He has never found it necessary to exceed sixteen grams a day. It may not be necessary to continue the large doses, but the medicine must be given for years. The difficulties from its administration are the disturbance of the gastric functions, the provoking of cutaneous eruptions and mental hebitude. Stomach trouble can usually be avoided by giving the medicine largely diluted. Magnan believes it best for such purposes to give the remedy just before meals, and he uses as vehicles infusion of quassia and syrup of orange peel.

Cutaneous eruptions will usually disappear after a short cessation of the medicine, or it may be controled by the simultaneous administration of arsenic. The mental hebitude always disappears when the drug is discontinued.

Hydrotherapy often very greatly assists the actions of the bromides. Various other medicines are sometimes beneficial, though they need not be mentioned in this short sketch. Proper hygienic measures will also avail much for the improvement of the patient and amelioration of the disease.

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1. Clinical Lectures.
2. Archiv f. Psychiatrie u. Nervenkrankheiten. Vol. VI.
3. American Journal of Insanity, 1873.
4. Quoted by Echeverria.
5. Le Progres Medical, 1883.
6. Archiv f. Psychiatrie u. Nervenkrankheiten. Vol. XI.

TREATMENT OF TYPHOID FEVER.

By Miles F. Porter, A.M., M.D.,
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> "The life of all his blood
> Is touched corruptibly: and his pure brain
> (Which some suppose the soul's frail dwelling-house),
> Doth by the idle comments that it makes
> Foretell the ending of mortality."

The foregoing quotation from Shakespeare represents, we believe, the pathology of the symptoms of typhoid fever as accepted by a majority of the profession. In other words the profession generally regard typhoid as a specific fever; and, so far as I am aware, no arguments have been produced which militate against this view. This being true it follows that specific treatment of this disease must remain out of the question until we isolate the specific poison which produces it and having accomplished this, discover a remedy which can be safely introduced into the organism in sufficient quantity to render this poison inert. Hence it is that treatment has been directed against those elements of the disease which were considered the most potent for evil; and different plans of treatment have been devised to conform with the various views held as to the most important factor in the production of death.

Regarding heart-failure as the thing most to be feared and believing it to be due to the direct action of the specific virus, some advocate the early, free and continued use of stimulants and food, paying little regard to other elements of the disease; and still others, with the same view, insist that ergot best fulfils the requirement. A great number, in this country and Germany especially, have pinned their faith to the "cold water" or to the "quinine" treatment, or a combination of the two, believing the high temperature to be the direct cause of death in the great majority of cases. Some of this faith are very enthusiastic, applying the treatment in all cases, claiming that the contraindications to the cold bath, pointed out by Liebermeister and others, do not obtain if the treatment be commenced sufficiently early. I am aware that this enthusiasm does not obtain in the larger cities generally; but that it prevails to a great extent among practitioners of the smaller cities, towns and country, I am convinced.

G. C. Smythe, in a paper read before the Medical Society of the Mississippi Valley at its last meeting, and published in the LANCET AND CLINIC, Vol. xi., No. xiv., strongly advocates the combined use of the cold bath and large doses of quinine, arguing that the "characteristic symptoms of typhoid fever, such as low muttering delirium, * * * etc., are not the direct result of the specific poison of the disease, but rather the effect of the long continued elevation of temperature, * * * ." Now, I submit that if it be true that all these symptoms are due to the direct action of heat then the argument that contraindications will not arise where the treatment is commenced early enough may be true; and that the treatment is scientific and rational.

However, the generally accepted pathology of these symptoms is diametrically opposed to such reasoning and to the treatment born of it. That this pathology is correct, that the symptoms, signs and lesions found post mortem are due to the action of the specific virus, is abundantly proven. How else explain those cases of typhoid *without elevation of temperature?* In what other way explain the severity of symptoms and great mortality in cases with the temperature ranging between 100° and 103°; or the mildness of the symptoms and the light mortality in cases with the temperature ranging from 103° to 105°? If the high temperature causes all the symptoms alleged by the advocates of this theory and treatment, why do we not have subsultus tendinum, stupor, etc., occurring more frequently in other maladies in which the temperature is as high and as long continued as it is in typhoid? Why do these symptoms *frequently occur in typhoid before the fever has been either high or long continued?* Why, again, do we not have ulceration, etc., of the agruminated glands as a frequent result of high and continued fever in other maladies? The result of the cold bath is a *great increase* of blood pressure, which in turn demands an *increase of cardiac power* in order that the circulation be properly carried on. It is a well known fact that sudden distention of the heart causes paralysis of that organ; and that this result can be brought about by a distensile force which is weak in proportion as the heart itself is weak. Other things being equal, increased blood-pressure predisposes to hemorrhage and calls for more expenditure of heart-force. In a case with an already weakened heart, with the mesenteric vessels ulcerated nearly through, or perhaps entirely, and the openings closed by friable clots, it is easy to imagine how and why the cold bath might produce either fatal syncope, pulmonary congestion or hemorrhage from the bowel.

B. S. Woodworth, M.D., an old, experienced and scientific physician of this city, has seen epistaxis and metrorrhagia produced by large doses of quinine. A lady in my practice can not take ten-grain doses of this drug during menstruation without bringing on alarming hemorrhage. I have also noticed that quinine often increases and prolongs the flow after labor. That these results were due solely to the action of quinine there can be no doubt.

Drs. E. D. McDaniel, of Camden, Ala., and P. B. Minor, of Forkland, Ala., in their study of 219 cases of hemorrhagic malarial fever, ([1]) report against the use of quinine in this disease on the ground that it produces, or favors the occurrence of, hemorrhage.

Giving all the facts, both *pro* and *con*, their due weight we are forced to the conclusion that the indiscriminate, or general, use of the cold bath and large doses of quinine in typhoid fever, either separately or in conjunction, is not supported by theory nor clinical facts, and that it is often productive of harm. We would not proscribe this treatment entirely by any means for we believe it to be not only admissible but demanded in those cases with high fever, strong heart-action and no evidence of extensive ulceration of the bowel, especially during the first week of the disease. During the second and first part of the third week, when hemorrhage is most likely to occur, these measures should always be used with caution. After hemorrhage has occurred or where we have reason to believe that there is extensive ulceration of the bowel; and in cases where the action of the heart is feeble or there is marked pulmonary congestion, the cold bath and quinine treatment combined or the cold bath itself should be proscribed. Regarding the use of quinine alone, in large doses, under these circumstances, I am free to admit that, in the light of my own experience and the recent developments regarding the action of this drug, I should feel guilty should I use it. A study of the history of typhoid fever from the time it was first recognized as a distinct disease until the present, will teach us that there is no *one element* of the disease which can be considered as *the element* of danger in all cases nor even in a respectable majority of them; and hence it is that to adopt a given treatment for all or even a majority of cases is reprehensible. Each individual case should be studied by itself and treated accordingly; for what is an element of danger in one case may in another, cut a comparatively small figure; again, means which might be employed, with propriety, to subdue a certain dangerous symptom in one case, would in others cause a more dangerous one than that for which they were employed.

There is great danger of commencing the use of stimulants too early and thus exhausting the power of the heart to respond to these remedies or getting the after effect of stimulation (exhaustion) when stimulation is most needed. It is probable that the salutary effect of acids in typhoid fever finds an explanation in the results of Voight's investigations, which seem to prove that there is a lack or an entire absence of free acid in the gastric juice of those suffering from this malady.

We find some authors laying great stress upon the utility of the nervous sedatives for the delirium, while others, for the same symptom, use stimulants and exclude almost entirely the sedatives. This again, shows the importance of making each case a separate study; for in one case the delirium may be due to excitation and in another to exhaustion of the nerve centres; and hence, sedatives would be indicated in the one and stimulants with food in the other. Remedies given with a view to checking hemorrhage from the bowel through their local action are best given in pill form or in capsules. This point seems not to receive the attention that it merits.

Filling the large bowel with *hot* water will be found a potent remedy in those cases where there is great abdominal tenderness and pain; and it is, in my opinion, one of the best means, if not the best, for controlling severe hemorrhage. Hot water has never been recommended before this, so far as I am aware, as a remedy in typhoid. I was led to use it because of the beneficial results which followed its use at my hands in other affections of the bowel and in surgical cases as a hemostatic and local anesthetic. My experience with hot water thus used in typhoid fever is limited to one case; but with the exceedingly salutary result of its use in this case present in my mind, and having had a comparatively extensive experience in its use in enteritis, hemorrhoids, dysentery, etc., I feel warranted in recommending it to the profession as worthy of a trial at least.

Before closing this already rather lengthy article I desire to put a question which lately has often forced itself upon me: Has the profession, in view of the recently demonstrated antiseptic properties of the mercurials, not been too hasty in condemning the use of them in the treatment of typhoid fever and many other zymotic diseases?

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[1] *Vide* Medical News, Vol. xliii., No. xxi.

TUBERCULAR LARYNGITIS.

THE USE OF THE LARYNGOSCOPE IN DETECTING LONG TROUBLES, ESPECIALLY IN THE FIRST STAGES.

Being an abstract of a Paper read before the Butler County Medical Society, Janury 6th, 1883, by

By A. N. Ellis, M.D., Hamilton, O.

A patient comes to you with the following symptoms: He complains that he is losing flesh and has an annoying cough; that occasionally night sweats afflict him; that the slightest exertion tires him; that on lifting, or climbing up stairs, or walking up a hill, he is obliged to *pant* for breath; that his voice is easily fatigued, and rendered hoarse; that he is despondent in his feelings; that every little thing worries him; that he is *blue* and out of sorts, without knowing just why, and that in short, the once peaceful and even current of his life has become directed into strange channels.

So much for what he tells you. You now make a careful examination of the case and find the pulse running from 85 to 95—a nervous, irritoble beat; the temperature from 99 to 100; the respiration a little quicker; a slight flush on the cheek; a bright gleam in the eye, and when you come to examine the lungs you find a slightly diminished resonance, with a perceptible increase of vocal fremitus, and prolongation of the expiratory murmur. Taking a glance at the general system you find some evidences of mal-assimilation, leading to loss of weight.

You go over the lungs time and time again, but find nothing you can reason by. You are in troubled waters when you cannot touch bottom. Your patient is uneasy, and you are all in doubt and anxiety in regard to the future of the case. You cannot shut your eyes and trust to luck. What will you do?

Now, it is right here that the laryngoscope gives us valuable aid in establishing a diagnosis, for we must not forget that tubercular disease may be detected in the larynx before it proclaims its presence in the lungs. Whether or not there be tubercle actually developed in the larynx, or what indeed is the nature of tubercle, I do not care to decide. I will only say that in my opinion, that whenever and wherever you find evidences of phthisis in the throat, sooner or later it will be found in the lungs.

Now we have taken the third mirror in hand, and are about to make out a diagnosis.

Under a strong light the larynx discloses certain conditions of the lungs, some parts of the mucous membrane are pale and anæmic, white, while others have a muddy grayish look. The vocal cords are often congested. The blanched part of the larynx discloses a number of engorged capillary vessels, wandering feebly and aimlessly across its surface. The epiglottis partakes of the anæmic hue, and when this state of things is seen, should induce the doctor to make a careful examination of the apices of the lungs. On the lingual surface of the epiglottis you see the same kind of engorged looking vessels, that you have just seen on the interior of the larynx. Not unfrequently the surface of the mucous membrane, is studded here and there, with small, white protuberances, the size of a pin-head or mustard-seed, round or oval in shape. Groups of such exudations are found sometimes on the laryngeal surface of the ary-epiglottic folds. Often they remain unchanged in appearance for many months, looking much like calcareous degeneratives of former tubercles. Sometimes we find an appearance of roughness, which will increase until a vegetation sprouts up, looking much like a papilloma. Do not try to remove this by any operation, for if the case prove consumption, the spot will ulcerate, and the patient be thrown into an advanced stage of the disease.

Two or three months pass by, and quite a change is noticeable. The anæmic look is gone, and in its place we find congestion and tumefaction. In the interior of the larynx the color has been more of ague. The epiglottis has lost its natural buff hue and assumes a pale, rosy tint. The graceful and delicate outlines of the entire laryngeal organ are lost in the turgid swellings and congestions. The ary-epiglottic folds look like two large, solid, pyriform tumors, the large ends being against each other in the median line, and the small ones directed upward and outward. The inter-arytenoid folds are blended in these swellings, and thus present the approximation of the cords.

When we see this condition of things we may be pretty sure that deposit of tubercle in the lung has taken place.

In the third and last stage we come to

ulceration. The ulcers are almost always small and scattered. They have a worm-eaten, carious look, as if the process of degeneration had commenced in the deeper tissues. The intervening tissue soon breaks down, and so form large ulcerating surfaces. The ulceration on the surface of the vocal cords is seldom deep. As the disease advances, narrowing of the glottis often takes place, but there is never any attempt at cicatrization.

When we compare the ulceration and erosions of the disease now under consideration to those of tertiary syphlitic laryngitis we observe a very marked difference, for in the latter affliction they are not deep but rather flat, looking much like small vegetations, sprouting up like ordinary papillomatous growths.

PROGRESS OF MEDICINE.

BY C. W. TANGEMAN,
Assistan to Prof. Seely's Eye and Ear Clinic.

Dr. M. Tscherning, of Kopenhagen, gives an interesting paper in (*Graef's Archiv* 29, Bd. Abt.,) on the ætiology of myopia. The observations by T. were not made as is customary on school children, but on a class of individuals coming from all parts of the country. His observations were made at the Government Recruiting Office, thereby giving him control of a kind of material that has received little attention until recently. The cases were divided into six classes, according to their former avocation: The first class for example was made up of students who did a great deal of near work, while the last class made up of fishermen, sailors and coachmen. The results of this extremely interesting work is briefly as follows:

1. The increase of myopia is in proportion to the distance that the individuals work is from his eyes.
2. Extreme myopia (more than 9 dioptr) does not follow the ordinary law, but is found most frequently in the lower class of people.
3. Among the better class a diminution of the number of hypermetropes (as is generally accepted) can not be proven. In the same portion of the work, T., from his observations by referring to the clinical records of his teacher, Hansen, since his first statistics might be considered faulty on account of having been made only on young men. The result was that he verified his former statistics, namely, the majority of cases of excessive myopia were found among the lower classes. Complications were met with in 6 per cent. of the cases in ordinary myopia, and in 33 per cent. the error was of a high degree. T. divides myopia into three classes:

1. "Accidental" myopia, *e. g.*, faulty construction or shape of the lens, where the rays of light come to a focus before striking the retina, while the eyes otherwise are perfectly healthy.
2. Acquired myopia by continuous use of the eyes at near work. This condition cannot be considered a disease; it is simply due to strain.
3. Excessive myopia. This condition is the only class that can be considered as being pathological. It is not dependent on the kind of work that is done, and will eventually lead to the greatest complications.

Martin, of Bordeaux, in "*Le Concours Medicale*," claims that in the majority of cases of scrofulous keratitis so-called, occurring about the age of puberty, the keratitis is not due to scrofula, but it is caused by an irregular curvature of the cornea, which causes astigmatism. The observation of 42 cases forces him to this conclusion: The unusually strong accommodative effort that an astigmatic eye during this age is compelled to make, with the contractions of the ciliary muscles he thinks causes a disturbance in the circulation of the entire eye, which acts especially on the cornea. Clinical proofs for these theories are as follows:

1. Astigmatic keratitis is most frequently met with during the age of puberty, where, according to experience, the demands on accommodation are greatest.
2. The use of atropine continued for some time is the most effective plan of treatment.
3 The use of cylindrical glasses almost positively prevents all relapses in this class of cases.

Dr. E. **Berger**, of Graz, has invented a new refraction ophthalmoscope, which seems to have some advantages over those in use at the present time. It has always been somewhat difficult for the beginner to examine an eye by the direct method; this new instrument is not only for the student, to enable him to accurately see the fundus, but also for the practiced occulist it is an advantage, since the instrument need not be removed from the eye in order to bring before the aperture in the mirror a correction glass.

There are a number of objections to the use of the ordinary ophthalmoscope; there are a large number of glasses that are practically useless; the examination must be interrupted in order to bring a new combination into use and then there are frequently repetitions or the same combinations occurring.

The glasses, fifteen in number, are set in two Rekoss discs, the revolution of which enables us to make seventy-one different combinations without interrupting the examination. A plane or concave mirror can be used, as the operator desires. The two convex lenses accompanying the instrument, of 3 and 5 in focal distances, respectivelly, can be arranged as in the Coccius instrument for side illumination when using the direct method. The instrument, with all its good qualities, is not complex; therefore can but give satisfaction.

In *Allg. Wiener Med. Zeitung*, No. 49, 83, Stellwag von Carion publishes an article on a new procedure to relieve entropium, a turning in of the eye lashes. The two operations for the relief of trouble of this kind have not yielded the most satisfactory result; the one to scalp the lid, is objectionable on account of it being very disfiguring and it also robs the eye of protection—the second operation, that of transplanting, the tissues containing the lashes, the cosmetic effect is not satisfactory while the lid closes very imperfectly.

The operation advocated is in part similar to the operation of scalping the lid, but instead of depriving the lid entirely of the lashes, they are reversed and transplanted on the denuded marginal surface, so that the lashes instead of as formerly turning in will now turn outward. The transplanted portion must be carefully fitted at the edges. Little attention need be paid to antiseptics. After the operation both eyes are bandaged, the patient must keep perfectly quiet and remain in the recumbent position for three days, at the expiration of this time, the dressing is changed for the first time. At this time the whole margin of the lid has united already. In the course of ten or twelve days union is generally complete. Stellwag von Carion records two cases where the eyelashes dropped out after the operation, but in most of the cases they retained their vigor, whether they will do so permanently or not, that remains to be seen. In cases of partial trichiasis and districhiasis, Stellwag von Carion makes the same operation, but limits it to the diseased portion of the lid.

Society Reports.

CINCINNATI MEDICAL SOCIETY.

Meeting of January 23, 1884.

B. STANTON M.D.,	W. H. MCREYNOLDS M.D.
President, in the Chair.	*Secretary.*

Removal of Os Calcis.

Dr. N. P. Dandridge presented a patient whose os calcis he had removed last July.

The patient, a boy about fourteen years old, was suddenly taken with pain in the heel last May. This pain continued and resulted in the formation of pus, which was twice evacuated. Last July, the os calcis was removed by scooping it out, leaving only a shell, and in some parts only the periosteum. The foot was placed in plaster and the wound closed, with the exception of a space sufficient for a drainage tube. The first plaster was not removed for two months, when, the wound not being quite healed, another was applied. This was taken off some time after by the patient himself.

The motion of the ankle joint has been preserved but that of the tarsal joint lost. The power of inversion of the foot has also been lost.

The speaker thought the result of this case very satisfactory, because the choice was between amputation and resection, and this operation is much less severe than a formal resection.

The views held by most authorities as to the necessity of amputation, where the bones of the tarsus are affected, should, in the opinion of the speaker, be modified.

This case and one he had treated in a similar manner in hospital, scooping out the whole ankle joint, whould go to prove the truth of this statement.

Dr. B. P. Goode reported the following case of

Epilepsy.

"On the 31st of May 1882, I was called at one oclock at night to see a young woman who had sustained a dislocation of the left shoulder joint, the head of the humerus resting beneath the clavicle. I reduced the dislocation without difficulty. An anæsthetic not being found necessary.

The mode of proceeding consisted in flexing the forearm upon the arm, the joint of the elbow being elevated until it was at right angle with the trunk, and at the same time rotating the limb outward. These movements were then reversed, bringing the limb extended to the side of the body. The first manœuvre accomplished the object. After the reduction, the following facts were elicited:

The woman was married the morning of the previous day; was twenty-two years of age, a blond, about five feet two inches in height, and rather delicate physical conformation, medium inteligence, parents German. No special family history.

Her husband was a baker. He told me, that late in the evening he had gone into the baker shop to look after his workmen, leaving his wife asleep in her room. At the time mentioned above, he heard a noise in his wife's room, and on entering the apartment, found her awake. She said there was something the matter with her shoulder. He did not find any evidence of her having fallen out of bed, or that she had sustained any injury whatever. The woman herself could give no explanation. Under the circumstances, further investigation was suspended.

July 15, about six weeks later, I was called again, about eleven o'clock at night and found the same condition of affairs as before. The husband was engaged at his work and the woman was alone and asleep. She awoke and found her left shoulder dislocated. She had no bad feelings and conversed in an easy, clear manner. A sister present, said that about one year previous, the patient had fallen and dislocated the same shoulder. They supposed she had fainted. It was reduced without the aid of chloroform. The structures about the shoulder were much relaxed; and I suppose that the dislocations were produced by some movement of the arm during sleep. As for instance, the carrying the arm above the head. To prevent this, I ordered the arm to be fastened to the side. A daily bath of a solution of sea salt was recommended for the parts about the shoulder.

On August 28th, I was again called at about the same hour, eleven o'clock at night. This time her husband was able to give me a more intelligible account. He was sitting in the room reading. His wife was in bed asleep. He noticed her arms were extended and then three or four violent contractions of the arms followed. The face was slightly contorted. This lasted only a few seconds. She immediately awoke, seemed perfectly rational and recognized the fact that her left shoulder was again dislocated.

The case now presented itself in a very different aspect. That it was not a recent occurance, was evident from the statement of her sister, that a fainting fit had taken place one year previous, but whether this covered the entire field, was a large question.

The dislocation was reduced as before. The arm was to be more carefully secured to the side, and Bromide of Potassium in twenty grain doses to be taken three times a day. She was requested to call at my office in a few weeks for further directions. I did not see her again or hear anything of the result of the case until thirteen months afterward.

September 28th 1883, at eleven oclock at night I was called and learned the following:

They had used the Bromide of Potassium for three or four months. The arm was secured to the side and there had been no dislocations and perhaps no convulsions. Three months after I saw her, she became pregnant, she had been delivered of a healthy child which was fourteen days old at this time. She was attended by a midwife and the delivery was accomplished without difficulty. The seizure was observed by the nurse and presented the same appearance as that described by the husband thirteen months ago. In a moment afterward she awoke and said to her attendant that her left shoulder was dislocated.

The case was treated as on previous occasions and the woman was ordered thirty grains doses of Bromide of Potassium three times a day.

In five days, at the same time at night, during sleep, the occurrence was repeated. I now ordered the left arm to be secured in a position similar to Fox's dressing for fractured clavicle, with the point of the elbow brought well forward with the view of preventing the pectoral muscles from drawing the head of the humerus out of the glenoid cavity. The dislocations always being forward. The family were slow in acting in the matter and it was not until two more dislocations had taken place before they had prepared the apparatus. This made four attacks since her confinement, the last being October 25th. The left arm was secured as described above.

All things went on well until November 19th, when she awoke and found her right arm dislocated. There was no one present to observe the seizure. She has now had nine dislocations. Eight of the left arm and one of the right. As the left arm seemed to have been benefited by the position, I ordered the right to be secured in the same way. Bromide of Potassium has been continued in thirty grain doses, and up to the present writing, there have been no known seizures. The position of both arms has been constantly maintained.

This case may be fairly regarded as epilepsy. It falls under the designation "Le Petit Mal." There seemed to be a controlling influence exerted by the Bromide of Potassium. After pregnancy took place the Bromide was not used. During this period, no attack was observed, a fact worthy of note, as authors regard pregnancy as an exciting cause of epilepsy. The case is still under observation and any new feature will be reported hereafter.

DISCUSSION.

Dr. Comegys was rather sceptical as to the case being one of epilepsy, on account of the immediate return to consciousness after the spams which came on during sleep.

Dr. Zenner said the case just reported was in many respects a very peculiar one, though he believed the diagnosis to be correct. Though spasmodic contractions of various muscles may occur quite apart from epilepsy, yet the whole array of symptoms in this case, the repeated recurrence of the same convulsive movements, occupying evidently a large part of the body, can scarcely be otherwise explained. The remarkable feature that, instead of the attack terminating in an epileptic stupor as is usual, it seemed to arouse the patient into full consciousness is probably correctly explained by the essayist in the statement that we have to do with a *petit mal*. It was probably an attack which, if occurring during the waking hours, would not have been attended by unconsciousness, and it aroused the patient just as the same violent muscular action would arouse a healthy person.

The speaker then stated that, with the indulgence of the society, he would speak of the present views of the nature of epilepsy. There have been two leading theories on the subject before the profession: One that the seat of the disease is in the Pons varolii and medulla oblongata; the other that epilepsy is a cortical disease.

With the latter theory the name of Hughlings Jackson has been most prominently associated, and it was basad upon clinical and pathological studies.

This first theory, based upon experimental investigation, has been most strongly advocated by Kussmaul and Nothnagle, and has until recently found most ready acceptance by the profession.

In Kussmaul and Turner's experiments it was observed that incision of the cerebral vessels or ligature of the four large arteries of the brain was very soon followed by general convulsions. Through other experiments, section of the cord, removal of the hemisphere, etc., they further concluded that these convulsions were produced by the direct effect of the anemia on the medulla and pons. As these convulsions were similar to those of epilepsy in man, and, from other considerations which need not be entered into here, they believed themselves justified in concluding that in epilepsy the seat of the disease is in the medulla and pons, wherein is located the vaso motor centre; that during an attack this centre is irritated, producing anemia in the excito motor areas, and therefore convulsions, producing anemia also in the cortex, and therefore unconsciousness.

Nothnagle somewhat modified this theory. In attacks of epilepsy there is sometimes convulsive movement without impairment of consciousness, sometimes loss of consciousnes, unattended by motor symptoms.

To explain such cases he supposes there are two centres side by side, the vaso motor and spasm centres. They are usually equally and almost simultaneously affected in attack; but sometimes only the spasm centre is affected, and there is only convulsive movement, sometimes the vaso motor centre is alone irritated, and there is only affection of unconsciousness.

These views seemed further corobborated by the experiments of Heubel on frogs, in which he found that irritation of a certain point in the medulla would always produce general convulsions.

The views based upon the just mentioned experiments have found general favor with the profession, but the results of some experiments, recently published by Unverricht, of Breslau, seem likely to produce a revolution in this regard.

His experiments were made upon dogs. He succeeded, through applications of a mild faradic current to different parts of the cortex, in producing general convulsions. The spasmodic movements of the different parts of the body always followed one another in a certain fixed manner, and it is herein that consists the chief results of his experiments. He first mapped out on the cortex, through careful experiments, the motor centres for various groups of muscles of different parts of the body. He then observed when he applied the current to a certain motor centre that the convulsive movements began in the muscles supplied by this centre, and passed from muscle group to muscle group exactly in the order in which their centres lay nearest one another in the cortex. Thus the centres were in this order in the cortex, for the muscles of ear, eye, face, neck, fore leg, trunk, hind leg. Now, if the electrical stimulus be applied to the muscles of the fore leg, the convulsive movements would begin in that member, and would proceed thence in two directions, to trunk and hind legs on one side, to the neck, face, eyes, etc., on the other.

This regularity of the progress of the convulsions, according to the arrangement of the centres in the cortex, seems to indicate that the motor phenomena are directly produced by cortical activity, to what Hughlings Jackson terms a discharge of the cells of the cortex, though Unverricht acknowledges that possibly the sub-cortical centres lie in the same relative position.

But, as a further proof that the cortex is here the important part, Unverricht proceeded to remove certain motor centres, general convulsions were now produced, but they ceased to affect those groups of muscles whose centres had been removed.

Though these latter experiments appear to prove conclusively the dependence of the convulsive movements upon the cortical activity, the author acknowledges that it is possible that the removal of the cortex acts by inhibiting the sub-cortical centres. Nevertheless he deems it altogether probable that in his experiments the convulsions were of cortical origin; and from the similarity of the entire symptom complex to the epileptic seizure in man, he believes that we may safely conclude that the latter have a similar origin.

He has succeeded in finding a few cases on record with disease of a hemisphere, or only the cortex of one hemisphere where an epilectic seizure did not involve that side of the body opposite to the seat of disease.

If the attack were dependent on the medulla and pons, the non-involvment of one side could not be explained in these cases, as these parts were normal.

The speaker then said that while we cannot yet conclude that epilepsy is a cortical disease, if further investigation should establish such a fact may lead to very important practical results. With a fuller knowledge of cerebral topography, which we may confidently expect from the future, the recognition of the aura or the first motor symptoms in a seizure will lead to the diagnosis of the exact locality of that area in the cortex, whose pathological condition (wherein the pathological change consists we do not yet know) has led to the outbreak of the first epileptic seizure, and still continues to be the prime mover in the general cerebral discharge. If we once attain to that knowledge, we may then confidently look for the resources of cerebral surgery.

NEW YORK ACADEMY OF MEDICINE.

Meeting of January 17, 1884.

FORDYCE BARKER, M.D., LL.D., President in the Chair.

DR. R. F. WEIR gave a demonstration of *Antiseptic Dressings as they are Used at the New York Hospital.*

The principles embodied in the dressings remain the same as when set forth by Sir Joseph Lister, and in the treatment of wounds the aim is to place the parts in such a position as to secure the best drainage and keep them at rest (avoiding frequent renewals of the dressing). To accomplish the last, substances which will prevent decomposition must be used, for this is either caused by micro-organisms or inevitably associated with the process. Whatever theories may be broached concerning the entrance of germs into the body, it is the aim of antiseptic surgery to neutralize conditions which favor the development of germs. Until recently this has been done by the use of carbolic acid and iodoform.

A grave objection to carbolized gauze or jute, etc., is the fact that, however prepared, the carbolic acid evaporates, and leaves the material, if not *very* fresh, an unreliable antiseptic dressing. One of the great objections brought against carbolic acid and also iodoform is the fact that both are liable to produce toxic effects. We know a little more exactly concerning iodoform than carbolic acid in this respect, and Neuber, of Keil, demonstrated quite satisfactorily that of this drug forty-five grains can be used safely about a wound. About two years ago Dr. Weir began to use the bichloride of mercury, which has displaced, to a very considerable extent at least, both of the above antiseptic drugs. It is kept in contact with wounds by means of gauze, cheese-cloth, or mull, impregnated with a solution, or by means of peat, first used at Kiel, and also jute, which fell into disuse because carbolic acid evaporated from it so rapidly. The bichloride solution used varies in strength from 1 to 1,000 parts of water to 1 to 5,000. One great advantage which it has over carbolic acid is durability, and a week ago Dr. Weir would have said that it was a very stable chemical. But investigation proved that it is a rather unstable compound, that calomel forms at the expense of the bichloride, both in the solution and in the dressings (gauze, jute, etc.) To counteract this Prof. Gibbs, of Harvard, had suggested the addition to the solution of a small quantity of common salt, say 5 parts to 1,000.

To prepare the dressing, get the sizing out of gauze or cheese-cloth by immersing it in a weak solution of soda, or muriatic acid, or both, then washing it with water and drying it. Then immerse it in the following solution:

℞.	Bichloride of mercury,	20 parts.
	Water,	4,480 "
	Glycerine,	500 "

which is a one-fourth per cent. solution, and allow it to dry. Cotton batting is prepared in a similar way. Jute and moss are prepared by putting them into a solution of bichloride, 1 part to 1,000 of water and 50 parts of glycerine, and allowing them to remain all night, when they are wrung out and allowed to dry (the glycerine prevents them from doing so entirely). Dr. Weir then spoke of wood pulp, peat, bleached and pressed jute, moss, cotton, etc., and exhibited specimens of each, prepared for surgical dressings. These materials can be bought of M. Lienau, 2 Jones Lane, New York.

At the time of the operation a solution of bichloride, 1 to 1,000, sometimes 1 to 2,000 of water, is allowed to trickle nearly continuously over the incision, the parts having previously been thoroughly washed with soap and water and afterward with a solution of turpentine in alcohol, of the strength of two drachms to the pint. The parts should be washed the day before, as well as on the morning of the operation. The rubber bandage is applied (in amputations) and he uses the spray only in abdominal, thoracic, and joint operations. Hemorrhage is arrested temporarily by means of hemostatic forceps, of which Dr. Weir exhibited a large number, together with knives, having baked-rubber handles.

The vessels are ligated with catgut, prepared by placing the material in bichloride solution, 1 part to 100 of water, for ten to fifteen hours, and afterward wound on bobbins and kept in absolute alcohol. Occasionally Kocher's ligatures are used, prepared by placing catgut in oil of juniper for twenty-four hours, and then into absolute alcohol. Dr. Weir prefers, however, to use the ligatures from the oil of juniper alone, without having them kept in the alcohol. The wound is closed with the continuous suture of catgut, leaving an opening at each end for the drainage-tube, that of black rubber being preferred. Dr. Weir spoke also of decalcified bone drainage-tubes, one disadvantage of which was that they were absorbed too quickly. This, however, can be obviated by keeping them in absolute alcohol before use. Cleanse the wound by injecting the drainage-tube until the solution comes out clear, then place a piece of sublimated gauze over the centre of the wound, over that other pieces, and over the whole a compress of several thicknesses secured in position by means of a bandage. The expectation is to have an amputation wound heal under one or two dressings.

The possibility of toxic absorption of the bichloride solution has led some to use a milder antiseptic during the operations, such as that suggested by Thiersch, of Leipsic, and composed of

℞. Boric acid, 6 parts.
Salicylic acid, 1 part.
Water, 500 parts.

This is allowed to flow over the wound during the operation, the final washing being made with the bichloride solution. Cleanliness on the part of the operator and the assistants, as well as the patient, and everything about him, is presupposed, and the author of the paper referred especially to the operating rooms of Tait and Keith, and the scrupulous care exercised by these gentlemen concerning cleanliness. Special reference was made to the way in which sponges can be made aseptic, and the care which they should receive after each operation. The sponges in the New York Hospital are prepared by first beating out the sand, then washing them in warm (not hot) water, and then placing them in a solution of permanganate of potash, 1 to 1,000 of water, for twenty-four hours. Then wash out the permanganate with warm water, and bleach by immersing them in a solution composed of one part of sulphite of sodium to one hundred parts of water, to which has been added a one-fifth part of a watery solution of hydrochloric or oxalic acid of the strength of 8 parts to 100. Only a few minutes are required to whiten them, and if left longer they become brittle. The sponges are then put into a carbolic solution of 1 to 20, or in a bichloride solution of 1 to 1,000, where they remain until used. Sponges prepared in this way cost about a cent and a half each, and can therefore, without much expense, be thrown away after each operation. For simple lacerated wounds Dr. Weir preferred iodoform.

Finally, absolute rest, so far as possible, is enjoined, and this is secured (in cases of amputation, etc.) by means of the tin splint enamelled.

To use a common expression, Does all this detail pay? He regarded it like discussing a self-evident proposition, but to show the value of antiseptic treatment a few figures were presented. Prior to the use of antiseptics the mortality from compound fractures of the thigh and leg, arm and forearm, was over thirty-three per cent. in Roosevelt and St. Luke's Hopitals; in the old New York, sixty per cent.; in the Boston City Hospital, forty-one per cent.

Under the open treatment the mortality was reduced to twenty-six per cent. Under antiseptic treatment he had had one hundred and eighteen major compound fractures, with eight deaths, a mortality of six per cent. Lately he had had twelve cases of compound fracture treated with the bichloride dressings, without a single death. Similar testimony is to be had concerning amputation, and Dr. Weir quoted from Billroth's and Volkmann's statistics, and also gave his own, all of which showed a very great reduction in the rate of mortality when compared with results obtained by old methods. In conclusion, the author of the paper repeated the words which he had used on a former occasion: "The saving of life which is thus indicated, occurring as it now does, or ought to do, over the whole world, should entitle the name of Joseph Lister to outrank in medicine all of his century, not excepting the discoverer of anæsthesia."

DISCUSSION.

Dr. A. C. Post was invited to open the discussion, and said he was convinced of the value of what is known as antiseptic surgery, although he was not fully prepared to acknowledge the necessity for all the details of the treatment which had been described by the author of the paper. There was no doubt that a vast improvement in the treatment of wounds had been obtained by Lister's method and its accessories; that is, great care concerning cleanliness, thorough drainage, and the use of antiseptic applications to guard against the morbid processes supposed to be associated with micro-organisms. It had appeared to him, however, that in ordinary wounds, not involving very important parts, it was hardly necessary to go through the entire formality of these complicated dressings. As to the necessity of perfect cleanliness and drainage there could be no question. He was thoroughly satisfied that the results of antiseptic treatment, as carried out in the New York and Roosevelt Hospitals by Dr. Sands and by Dr. Weir, had been an improvement upon those obtained previous to the use of such precautions.

He mentioned one antiseptic to which reference had not been made, and which he had used in the treatment of minor wounds, such as small open wounds, and that was the subnitrate of bismuth, sprinkling the surface with the powder from a pepper-box, and then applying an ordinary dressing. All the wounds, so far, which he had treated in this manner had progressed remarkably well.

Dr. J. D. Bryant, since the spring of 1868, when an interne in Bellevue Hospital, had watched with great interest the development of the antiseptic method of treatment. Between September, 1869, and the spring of 1871 he treated twelve cases of compound fracture. He adopted the plan of treatment then best known, and simply injected into the wound a solution of carbolic acid, 1 to 120, thoroughly washed out all the nooks and crevices, washed the entire limb, and surrounded the whole with oakum saturated in a strong solution, 1 to 80. The limbs were secured in an immovable apparatus of plaster-of-Paris splint. Of the twelve cases all but two recovered, and of these two, one was a particularly bad one, involving the ankle-joint with rupture of the posterior tibial artery and sloughing of the soft parts. Since the spring of 1871, when he left the hospital, he had used the ordinary antiseptic dressing as recommended by Mr. Lister. During the last few months of his practice he had employed the bichloride solution, 1 to 2,000, in conjunction with iodoform, antiseptic gauze, peat, etc., and with entirely satisfactory results, except in one or two instances, where the cause of the suppuration or rise of temperature could be traced to lack of attention.

To Mr. Lister undoubtedly belonged the credit of having perfected and introduced the antiseptic treatment to the profession, but the great fight which he had was with reference to eliminating external influences, as many, if not all, the other measures had preceded him. Dr. Bryant had full faith in the efficacy of the antiseptic treatment, and referred to two very severe cases in which its benefit was especially manifested. One was a case of very large scrotal hematocele, and the other was a tumor of the parotid gland. He thought one of the things to be studied by hospital surgeons was how to simplify antiseptic precautions so that they might be brought within the reach of the general practitioner so as to give the best possible results. At the present time the bichloride solution, with iodoform gauze, are probably the best that can be used. He employed catgut ligatures soaked in oil of juniper, and used short drainage-tubes rather than long ones, thus avoiding the possibility of the long drainage-tube acting as a foreign body in the wound. Dr. Bryant also reported a case which illustrated the great ability wounds sometimes exhibit to recover rapidly when subjected to ligature by catgut. The case was one of circoid aneurism, in which a very large number of ligatures were employed.

Dr. L. A. Stimson said there was more in antiseptic surgery than the mere antiseptic. He regarded it as essential to a fruitful discussion of the subject that a discrimination be made between the different parts of the problem. It should be recognized that there are at least two distinct parts: the first deals with the cause of the complications, which the dressing are designed to prevent; the second with the properties, the extent of the various dressings, and the value of each in preventing those complications. For a man who believes that suppuration or fever occurring in the course of the repair of a surgical wound is always the result of the introduction of germs from without the question is a simple one. It is his aim to clean the wound with an efficient germicide, and to cover it with a dressing which will either filter out or destroy all other germs which may be brought to it. But for the man who thinks there may be some other cause; that these complications may arise through the perverted action of the elements of the body itself; that they may be the result of local disturbances of nutrition, of tension, mobility, change of temperature, lowered or perverted vitality—for this man the problem is a much more complex one. He uses antiseptics to purify his wound, his own hands and those of his assistants, to purify his patient and his instruments, but after he has done that, after he has thus protected his patient from the dangers arising from one source, he has to employ other measures to protect him from those arising from other sources. He must have drainage, rest, and pressure, as well as cleanliness, and does not feel safe even then. There is still the *unknown* in the individual himself, that hidden fatal cause, whose action he can neither foresee nor avert, and it comes not only to him but also to the believer in antiseptics, and frequently enough to make that absolute confidence in their power to avert danger which men have recently expressed seem inexplicable, and action based solely upon that confidence rash almost to the verge of criminality. There is a great deal more in antiseptic dressings than the antiseptic itself, and each has many different properties, and the same properties are possessed by several in varying degrees. The test of experience alone *along a single line* is not sufficient to decide the question between their respective merits. Brilliant results and disastrous failures have followed each and every one, and no single man's experience has been found sufficient to cover all possible variations of disease and dressings.

Now look at antiseptics as germicides only, leaving out all topical effects. It has been demonstrated, beyond question, that the introduction into the healthy body of certain germs will cause septicemia; and, therefore, the use of antiseptics to prevent such introduction is proper. But it has not been proved that the same disease cannot arise independently of such germs. Cases of apparently independent origin, cases of septicemia without external wound, are known to all of us. For example, he had a hospital case, that of a man who had fallen from the top of a house, injuring his ankle, but the skin was not broken, not even bruised. There was a small wound in the small of the back, and some damage apparently was done to the nerve-trunks, as shown by partial loss of sensation. Within forty-eight hours after admission the foot and leg became swollen and crepitant; the limb was amputated, and found to be saturated with brown, offensive serum, gangrenous emphysema, and septicemia. There was no external wound, except that in the small of the back. The case could be explained on the germ theory in only one of three ways: The germs must have entered either through the skin, or through the small wound in the back, or through the lungs or alimentary canal. If through the wound in the back, then it would be necessary to dress every scratch, every pimple upon a patient's body. If they entered through the unbroken skin, a patient must be enveloped from head to foot in the dressing. If through the respiratory or alimentary tract, then no patient is safe. It was much easier for him to believe in the spontaneous production of the septicemia, that it was due to some local change, perversion of nutrition, or defective innervation. It may seem unfair to compare such a case with wounds made by the surgeon's knife, but it seemed to him that surgeon's did themselves injustice when they attributed unfavorable results, occurring under an antiseptic dressing, to lack of care, to neglect of some precaution. Such unfortunate cases happen to all, and he thought it often a more plausible explanation that the cause was in the patient, and not in a defect of the dressing.

Dr. Weir, in his interesting account of the dressings, had already pointed out one or two defects in the argument. The argument is that germs cause septicemia; antiseptics destroy germs, the use of the antiseptic method has been followed by good results, and, therefore, the good results are due to the antiseptics and complications are due to the entrance of germs. For many years we used carbolic dressings and got good results; and then we heard that carbolic acid evaporates and that the dressings we had been using were not antiseptic. Bichloride of mercury was substituted, and again with good results. Now Dr. Weir tells us that the bichloride is untrustworthy, for it changes into calomel. All this time, too, we have been putting catgut ligatures down in the bottom of the wound, and now we know that the carbolized oil in which the catgut was prepared is not antiseptic, that the catgut was sometimes actually rotten, that it contained the very germs we wished to keep out.

Again, putrefaction has been regarded as one of the sources of the trouble. Now, take one of the dressings the use of which has been attended with good results, namely, peat. It was thought to be in itself antiseptic, and was used without previous purification, and it gave excellent results. At the present time it is usually moistened with a bichloride solution. To test its antiseptic properties Dr. Stimson had made a series of experiments; he had saturated peat with a sterilized putrescible liquid, and within forty-eight hours the liquid was swarming with bacteria, while the liquid of the "controlling" experiments was still clear. The peat itself *is full of germs*. No one questions its value as a dressing, but its value must be due to something else than its supposed antiseptic quality.

There are many things in antiseptic dressings besides the antiseptic, and he believed that the good results which have unquestionably followed the use of these dressings were due to these other properties quite as much as to the prevention of putrefaction.

If the exclusion of germs is all that is needed, why should drainage be used, why should not every aseptic wound be transformed at once into a subcutaneous one by primary union of the skin? He mentioned a case to show how such an attempt fails. A simple fracture does not have drainage, and yet does not suppurate; but an open wound, made by the surgeon and involving the bone, will suppurate nine times out of ten, despite all antiseptic precautions.

While, therefore, he believed that the antiseptic method of treatment was exceedingly valuable, he also believed that the use of the antiseptic as a preventive of septicæmia, suppuration, or fever following operative wounds or injuries is a restricted and limited one. He believed that by its use we only protect our patients from the action of *specific poisonous germs*, and that to it we must add other elements in the dressing. Free drainage must be established and perfect rest must be secured, together with equable compression and temperature. With the application of these principles, to the details of which it was not necessary to refer, he believed the patient was placed under the most favorable conditions for a rapid recovery to ensue. He believed, therefore, in antiseptics to purify the patient, the surgeon, the assistants, and the instruments, and then drainage, compression, and rest must be secured.

Dr. A. G. Gerster spoke of some of the points of advantage which the corrosive sublimate solution possessed over carbolic acid. It was well known that carbolic acid has a disagreeable effect upon the tissues, produces a bloody oozing which permeates the dressings very quickly, and necessitates a change of them within from ten to twenty-four hours, sometimes even earlier, and thereby one of the principles of antiseptic treatment—that is, long-continued rest—is frustrated. By the use of the bichloride solution this disagreeable feature is avoided, as the bichloride leaves a very dry wound, does not dissolve the small clots which plug the vessels that have been cut by the surgeon's knife, and favors the leaving of the first dressing for a long time before it becomes necessary to change it. During the last six months he had used the bichloride solution almost exclusively in his service at the Mount Sinai Hospital, also at the German Hospital, and the essentials of the treatment were the same as those which had been related by Dr. Weir. It had been his desire to so simplify antiseptic treatment that antiseptic surgery could be adopted by the general practitioner. To this end he had been employing a material to which reference had not been made, and with excellent results, namely, common sawdust. After having the sawdust soaked for twenty-four hours in a watery solution of bichloride, 1 to 500, and then dried, it is put away in a tight box. Before each operation a suitable sized bag is filled with the sawdust, and under this dressing all his surgical cases had done as well as under the most æsthetic antiseptic dressing which could be imagined. He regarded iodoform as a very valuable dressing, and it could be used by sprinkling it over the ordinary gauze, or the sublimate gauze, where it would quickly form with the blood a pasty substance, a protective more effectually excluding all external influences than any which he had seen. He also tried Spanish moss, but had not found it a very useful material so far as its absorbent qualities are concerned. It is exceedingly soft and agreeable as a dressing, but it does not absorb readily. The ordinary cotton batting he had found to be a very valuable and exeellent antiseptic dressing. He then referred to a case of compound fracture of the elbow-joint, occurring in an old man, with poor circulation and affected lungs. The ordinary cotton batting soaked in a bichloride solution was applied *extempore*, and secured in position by an ordinary muslin bandage manufactured on the spot from old sheets. The progress of the case was entirely satisfactory, the fracture progressed as though it had been a subcutaneous one; healing of the external wound occurred by first intention, and the case did very well. One reason why it did so, he thought, was because no serious injury was done to any of the more important blood-vessels, whereas it was quite possible in Dr. Stimson's case, referred to, such injury took place, and perhaps would explain the unfavorable result that followed.

He did not wish to enter upon the theory of antiseptics, but thought that all hospital surgeons admitted there had been a vast improvement in the behavior of wounds since they had been in use, in the strict sense of the word. Of course suppuration and fever had occurred in many cases after they had been used in the most careful and thorough manner—apparently so at least, but he thought the vigilant surgeon would find in nine out of ten cases the cause of his failure, and he believed it important to search for such causes, as finding them would help to avoid subsequent failures. He then referred to a case in which he incised the shoulder-joint for the purpose of removing a portion of the capsule to prevent habitual dislocation. Elevation of temperature was present on the following day, and, *without delay*, he opened the wound entirely, found three or four catgut ligatures surrounded by pus, the remainder of them not being changed, and he had no doubt whatever that the catgut carried the infection into the wound. He believed that it is not germs alone which give rise to these unfavorable symptoms; the expression is too mild, since generally the complications are due to veritable lumps of dirt. He regarded continuous vigilance as one of the very essential conditions to the success of antiseptic surgery, and believed that in most of the cases which had proved failures, and it had been said that the results were due to the fact that the spray was not used, or there was some other deficiency in the local applications, there would be found, on closer investigation, gross neglect with reference to cleanliness.

Dr. Wier, in closing the discussion, said he must agree with Dr. Gerster and also with Dr. Stimson, although both apparently took opposite sides of the question. Very many cases are treated according to the principles of antiseptic surgery which terminate unfavorably, but in the majority the reasons for their unfavorable progress or fatal termination could be found. At the same time he must say, also, that he had seen cases where he was unable to condemn or criticise the dressings or find want of care in their application, and yet evidence of septicæmia developed. He did not think that, as yet, we have absolute control of all the elements in the cases, but so far the principles had led toward the perfecting of the method of treatment. Certainly we must not be rash, and he wished to put himself in accord with those who raised a voice of warning against undertaking certain operations which are hazardous to life and from which very little is to be gained.

With regard to bismuth, mentioned by Dr. Post, he thought that it did not prevent the occurrence of erysipelas, as most of the other antiseptic dressings employed seemed to do.—*Medical Record.*

THE CINCINNATI
LANCET AND CLINIC
A Weekly Journal of
MEDICINE AND SURGERY,
Issued every Saturday.

Terms, $3.50 per annum in advance.

☞All letters and communications should be addressed to, and all checks, drafts, and money orders made payable to

DR. J. C. CULBERTSON,
Editor and Publisher,
281 W. 7th Street, Cincinnati, Ohio.

Subscribers to the Lancet and Clinic who have not already remitted their subscription will confer a favor on the publisher by promptly doing so.

Cincinnati, February 9, 1884.

Selections.

MEDICINE.

A People Without Consumption, and Some Account of Their Country—The Cumberland Table-Land.—By E. M. Wight, M.D., Chattanooga, Tenn., in the *Southern Practitioner.*

During the ten years that I have practiced medicine in the neighborhood of the Cumberland Table-lands, I have often heard it said that the people on the mountains never had consumption. Occasionally a traveling newspaper correspondent from the North found his way down through the Cumberlands, and wrote back, filled with admiration for their grandeur, their climate, their healthfulness, and almost invariably stated that consumption was never known upon these mountains, excepting brought there by some person foreign to the soil, who, if he came soon enough, usually recovered. Similar information came to me in such a variety of ways and number of instances, that I determined some four years ago, when the attempt to get a State Board of Health organized was first discussed by a few medical men of our State, that I would make an investigation of this matter. These observations have extended over that whole time, and have been made with great care and as much accuracy as possible; and, to my own astonishment and delight, I have become convinced that pulmonary consumption does not exist among the people native and resident to the Table-lands of the Cumberland Mountains.

In the performance of the work which has enabled me to arrive at this conclusion, I have had the generous assistance of more than twenty physicians, who have been many years in practice in the vicinity of these mountains. Their knowledge of the diseases which had occurred there extended over a period of more than forty years. Some of these physicians have reported the knowledge of the occurrence of deaths from consumption on the Table-lands, but when carefully inquired into they have invariably found that the person dying was not a native of the mountains, but a sojourner in search of health. In answer to the question, "How many cases of pulmonary consumption have you known to occur on Walden's Ridge among the people native to the mountains?" eleven physicians say, "not one." All of these have been engaged in practice there more than three years, four of them more than ten years, one of them more than twenty, and one of them more than forty years. All the physicians of whom inquiries have been made are now residents, or have been, of the valleys contiguous to Walden's Ridge, and know the mountain people well. Four other physicians, in answer to the same question, say that they have known from one to four cases, numbering eleven in all, but had not ascertained whether five of them were born and raised on the mountains or not. The names and place of death of all these cases were given, and I have traced their history and found that but three of them were "natives," or had lived there more than five years, and that one of these was fifty-seven years of age when she died, and had suffered from cancer for three years before her death. The two others died within six months after returning home from long service in the army, where both contracted their disease.

All these investigations have been made with more particular reference to that part of the Cumberlands known as Walden's Ridge than to the mountains as a whole. This ridge is of equal elevation and of very similar character to the main Cumberland range in the southern part of Tennessee, northwest Georgia, and northwest Alabama, and what is true of this particular part of the great Cumberland table is, in the main, true of the remainder.

Sequatchee Valley lies between Walden's Ridge, and what is commonly known in that neighborhood as the Cumberland Mountains, and separates it from the main range for a distance of about one hundred miles, from the Tennessee River, below Chattanooga, to Grassy Cove, well up toward the center line of the State. Grassy Cove is a small basin valley, which was described to me there as a "sag in the mountains," just above the Sequatchee Valley proper. It is here that the Sequatchee River rises, and flowing under the belt of hills which unites the ridge and the main range for two miles or more, rises again at the head of Sequatchee Valley. Above Grassy Cove the mountains unite, and hold their union firmly on their way north as far as our State reaches.

Topographically considered as a whole, the Cumberland range has its southern terminus in Alabama, and its northern in Pennsylvania. It is almost wholly composed of coal-bearing rocks, resting on Devonian strata, which are visible in many places in the valleys,

But a small portion of the Cumberland lies above a plane of 2,000 feet. Walden's Ridge and Lookout Mountain vary in height from 2,000 to 2,500 feet.

North of Grassy Cove, after the ridges are united, the variation from 2,000 feet is but little throughout the remainder of the State, and the general character of the table changes but little. The great and important difference is in the climate, the winters being much more severe in these mountains in the northern part of the State than in the southern, and the summers much more liable to sudden changes of weather. Scott, Fentress, and Morgan counties comprise this portion of the table, and these have not been included in my examination, excepting as to general features.

In all our Southern country—and, I may say, in our whole country—there is no other large extent of elevated territory which offers mankind a more pleasent living place, a comfortable climate—none too cold or too hot—and productive lands. We have, east of the upper waters of the great Tennessee River, in our State, and in North Carolina and Georgia, the great Blue Ridge range of mountains, known as the Unaka, or Smoky, Chilhowee, Great and Little Frog, Nantahala, etc., all belonging to the same family of hills. This chain has the same general course as the Cumberlands. It is a much bolder range of mountains, but is vastly less inhabitable, productive, or convenient of access. The winters there are severely cold, and the nights in summer are too cold and damp for health and comfort, as I know by a personal experience of two summers on Nantahala River. But the trout-fishing is beyond comparison, and that is one inducement of great value for a stout consumptive *who is a good fellow*. These mountains are much more broken up into branches, peaks, and spurs than the Cumberlands. They afford no table territory of any extent. There are some excellent places there for hot-summer visits —Ashville, Warm Springs, Franklin, and others.

The Cumberland Mountains, as a whole, are flat, in broad, level spaces, broken only by the "divides," or "gulfs," as they are called by the inhabitants, where the streams flow out into the valleys.

Walden's Ridge, of which we come now to speak particularly, is the best located of any part of the Cumberlands as a place for living. From the separation of this ridge from the main range of Grassy Cove to its southern terminus at the Tennessee River, it maintains a remarkably uniform character in every particular. From it access to commerce is easy, having the Tennessee River and the new Cincinnati Southern Railroad skirting its entire length on the east. It rises very abruptly from both the Tennessee and Sequatchee valleys, being from 1,200 to 1,500 feet higher than the valleys on each side. Looking from below, on the Tennessee Valley side, the whole extent of the ridge appears securely walled in at the top by a continuous perpendicular wall of sandstone, from 100 to 200 feet high; and from the Sequatchee side the appearance is very similar, excepting that the wall is not so continuous and of less height.

The top of the ridge is one level stretch of plain, broken only by the "gulfs" before mentioned, and an occasional prominent sandstone wall or bowlder. The width on top is, I should judge, six or seven miles. The soil is of uniform character—light, sandy, and less productive for the ordinary crops of the Tennessee farmer than the soil of the lowlands. The grape, apple, and potato grow to perfection—better than in the valleys, and are all never-failing crops; so with rye and buckwheat. Corn grows well—very well in selected spots and where the land is made rich by cultivation. The grasses are rich and luxuriant, even in the wild forests, and, when cultivated, the appearance is that of the rich farms of the Ohio and Connecticut river valleys, only here they are green and growing the greater part of the year; so much so that sheep, and in the mild winters the young cattle, live by the wild grasses of the forests the whole year. The great stock-raisers of the Sequatchee and Tennessee valleys make this the summer pasture for their cattle, and drive them to their own farms and barns, or to market, in winter. The whole Cumberland table, with the exception of that small part which is under cultivation, is one great, free, open pasture for all the cattle of the valleys. Thousands of cattle graze there whose owners never pay a dollar for pasturage, or own an acre of the range, though, as a rule, most of the well-to-do stock farmers in the valleys own more or less mountain lands. These lands have, until quite recently, been begging purchasers at from twelve and a half to twenty-five cents per acre, in large tracts of 10,000 acres and upward, and perhaps the same could be said of the present time, leaving out choice tracts and easily accessible places, which are held at from fifty cents to two dollars per acre—wooded, virgin lands.

The forest growth of Walden's Ridge is almost entirely oak and chestnut. Hickory, perhaps, comes next in frequency and pine after. There is but little undergrowth, and where the forests have never been molested there are but few small trees. This is due to the annual fires, which occur every autumn, or sometime in winter, almost without exception, and overrun the whole ridge. It does not rage like a prairie fire; its progress is usually slow, the material consumed being only the dry forest leaves and grasses. The one thing essential to its progress is these dry leaves, hence it can not march into the clearings. Nearly all the small shrubs are killed by these fires; otherwise they are harmless, and are greatly valued by the stock men for the help they render in the growth of the wild grasses. The free circulation of air through these great unbroken forests is certainly much facilitated by these fires, since they destroy every year what would soon become impediments. The destruction of this undergrowth leaves the woods open, and the lands are, mainly, so level that a carriage may be driven for miles, regardless of roads, through the forests in every direction.

The shrubs about the fields and places where the forests have been interrupted by civilization and other causes, are blackberry, huckleberry, raspberry, sumac, and their usual neighbors, with the azalia, laurel, and rhododendron on the slopes and in the shade of the cliffs.

The kind of wild grasses, I regret to say I have not noted, and the same of the rich and varied display of wild flowers.

The whole ridge is well supplied with clean, soft running water, even in the dryest of the season. There are no marshes, swamps, or bogs, no still water, not even a "puddle" for long distances, for the soil is of such a character, that suface water quickly filters away into the sands, and mingles with the streams in the gulfs. Springs of mineral water are abundant everywhere. Probably there is not a square mile of Walden's ridge which does not furnish chalybeate water abundantly. Sulphur springs, with epsom salts in combination, are nearly as common.

The extent of Walden's ridge is underlaid with veins of coal, and iron ore is plentiful, especially in the foot hills. The coal and iron are successfully mined in many places on the eastern slope; on the western, they are nearly untouched for the want of transportation. I find that the impression prevails that the mineral of the Cumberlands are largely controlled by land agents and speculators. This is only true, as applied to a very small part of the whole, not more than one per cent. The mineral ownership remains with the lands almost entirely.

The prevailing winds on Walden's ridge are from the south-west, northers and northeasters are of rare occurance. One old lady, who has resided there for forty years, in answer to my query upon this subject, said: "Nine days out of ten, the year round, I can smell Alabama in the air." This was the usual testimony of the residents. Winds of great velocity never occur there. In summer, there is always an evening breeze, commencing at four to six o'clock, and continuing until after sunrise the next morning. In time of rain, clouds hang low over the ridge occasionally, but they never have fogs there.

The range of the thermometer is less on the table-lands than in the adjacent valleys. I have had access to the carefully taken observations of the Lookout Mountain Educational Institute, such published accounts as have been made by Prof. Sanford, State Geologist; Mr. Killebrew; the thorough and painstaking private record of Capt. John P. Long, of Chattanooga, and many more of less length of time. From all these I deduce the fact that the summer days are seven or eight degrees cooler on the mountains than in the Tennessee valley at Chattanooga, and five or six degrees cooler than in the Sequatchee valley, as far up as Dunlay and Pikeville. The nights on the table are cooler than in the lower lands by several more degrees than the days, how much I have thus far not been able to state. The late fall months, the winter and early spring, are not so much colder than the valleys as the summer months, the difference between the average temperature of the mountains and valleys being at that time four or five degrees less than in the summer. There is no record of so hot a day ever having occurred on the Cumberland mountains as to cause mercury to run so high as 95° F., or so cold a day as to cause it to run so low as 10° below zero.

In the average winter the ground rarely freezes to a greater depth than two or three inches, and remains frozen but a few days at a time. Ice has been known to form eight inches thick, but in ordinary winters, three or four is the maximum. Snow falls every winter, more or less, and sometimes remains for a week. Old people have a remembrance of a foot of snow which lasted for a week.

Walden's ridge has a total population of a little more than 4,000, scattered over 600 miles of surface. The number of dwellings is about 800. Ninety per cent. of these are log houses; seventy per cent. of them are without glass windows, light being furnished through the doorways, always open in the daytime, the shuttered window openings and the open spaces between the logs of the walls. Less than two per cent. of these houses have plastered walls or ceilings, and less than five per cent. have ceiled walls or ceilings. About twenty per cent. of them are fairly well chinked with clay between the logs, the remainder being but indifferently built in that particular. Fully ninety per cent. of these abodes admit of free access of air at all times of day and night, through the floors beneath as well as the walls and roof above. It is the custom of the people to guard against the coldest of days and nights by hanging bed-clothes against the walls, and many good housewives have a supply of tidy drapery which they keep alone for this purpose.

Wood, always at hand, is the only fuel in use. The whole heating apparatus consists in one large open fire-place, built of stone, communicating with a large chimney outside the house at one end, and frequently scarcely as high as the one-story building which supports it. This chimney is constructed in such a manner as to be a great ventilator of the whole room, quite sufficient, it would be thought, if there were no other means of ventilation. It is usually made of stone at the base, and that part above the fire is of sticks laid upon one another, cob-house fashion, and plastered over, inside and between with similar clay, as that with which the house walls are chinked.

Very few of these houses are more than one story high. They are all covered with long split oak shingles, the people there call them "boards," rifted from the trunks of selected trees. There is no sheathing on the roof beneath these shingles. They are nailed down upon the flat hewn poles running across the rafters, at convenient distances. Looking up through the many openings in the roof in one of these houses one would think that this would be but poor protection against rain, but they rarely leak.

Not one family in fifty is provided with a cooking stove. They bake their bread in flat iron kettles, with iron covers, covered with hot coals and ashes. These they call ovens. The meat is fried, with only the exception of when accompanied by "turnip greens."

The question, "What is the principal food of the people who live on these mountains?" has been asked by me several hundred times. The almost invariable answer has been "Corn bread, bacon and coffee." Occasionally biscuits and game have been mentioned in answers. All food is eaten hot. Coffee is usually an accompaniment of all three meals, and is drank without cream and often without sugar. Some families eat beef and mutton for one or two of the colder months in the year on rare occasions, though beef is commonly considered "onfit to go upon," as I was told upon several occasions, and mutton sustains less reputation. Chickens are used for food while they are young and tender enough to fry, on occasions of quarterly meetings, visits of "kinfolks" or the "preachers", and the traveling doctors. Fat young lambs are plenty in many settlements from March to October, and can be had at fifty cents each, but I could not learn that one was ever eaten.

A large majority of the adult population use tobacco in some shape—the men by chewing or smoking—the women by smoking or dipping snuff. They never have dyspepsia, nor do they ever get flesh, after they pass out of childhood, though nearly all the children are ruddy in appearance, and well rounded with fat.

One physical type prevails among the people in middle life, and carries along into old age but little change; and old age is common there. Nearly every house has its old man or old woman, or both. Everybody, father and mother, and frequently grandfather and grandmother are still on hand, looking as brisk and moving about as lively as the newer generations. After they pass their forty years, they never seem to grow any older for the next twenty or thirty, and the grandfathers and grandmothers can scarcely be selected by comparison, from their own children and grandchildren. The men are taller than the average, and the women, relatively, taller than the men. They are all thin-featured, bright eyed, long haired, sharp looking people, with every appearance of strength and power of endurance.

I think the men who live on Walden's Ridge can safely challenge the world as walkers, aborigines and all, and unless the challenge should be accepted by their own women folks, I feel quite sure they would "win the boots." They go everywhere on foot, and never seem to tire.

Nearly all the people of the table-lands are employed in pursuits of agriculture. Very few of them seem to be hard workers. The men are all great lovers of the forest sports, much given to the good, reliable, old-fashioned long rifles. The women and children are much employed in out-door occupations, and live a great portion of their time in the open air. The clothing of all classes is scanty. The use of woolen fabrics for underwear has not yet been introduced, and coarse cotton domestic is the universal shirting, and cotton jeans, or cotton and wool mixed, constitute the staple for outer wearing apparel. The men wear shoes throughout the year much more commonly than boots. They never wear gloves, mittens, scarfs or overcoats, and they scorn umbrellas. Probably this whole 4,000 people do not possess two dozen umbrellas, or thrice as many overcoats. The women go about at home with bare feet a great part of the summer. They never wear corsets or other lacing.

I have learned by careful inquiry that very few of the people of the Ridge have ever had the diseases of childhood. Scarlet fever I could hear of in but two places, and I suppose that not one person in fifty has had it. Whooping cough and measles have occurred but rarely, and the large majority have not yet experienced the realities of either. Very few people there have ever been vaccinated, nor has smallpox ever prevailed. Typhoid, typhus and intermittent fevers are unknown. In the great rage of typhoid fever, which took place ten or twelve years ago in the Tennessee and Sequatchee Valleys, not a single case occurred on the mountains, as I have been informed by physicians who were engaged in practice in the neighborhood at the time. Diphtheria has never found a victim there; so for croup. Nobody has nasal catarrh there, and a cough or a cold is exceedingly rare.

The whole Cumberland table is no small country. It comprises territory enough to make a good sized State. At present, it is almost one great wilderness, in many particulars as unknown as the Black Hills. It is coming into the world now, and will be well known in a few years. The great city of Cincinnati has built a railroad through the very center of this great tableland in the north part of the State, connecting with Chattanooga in the southern part.

It seems to me this country has merits. It is located in the latitude of mild climate; not so far south as to be scorched by the hot summer sun, or visited by the great life destroying epidemics, nor so far north as to meet the severe and lengthened winters.

Climate, we know, is a fixture; it has a government; it has rules; the weather may change, but climate does not; it is a permanent outdoor affair, and what is true of to-day, was true centuries ago, and will be true forever, in the measure of any practical scope, at least. The people of the world are beginning to know that the greatest destroyer of human life has its remedy in climate.

Mr. Lombard, in his famous exhibit in relation to the prevalence of consumption among the people of different occupations, circumstances of life and place of dwelling, gives the lowest number of deaths from this cause to those who live in the open air. He found the people who lived most in the open air, as would be readily conjectured, in the mild latitudes, not in the countries of hot sands or cold snows.

BACILLI OF CHOLERA INFANTUM.—At a recent meeting of the Berliner. Med. Gesellchaft, Dr A. Baginsky, *Allg. Wien. Med. Zeitung*, November 6, 1883, made a report on the bacilli of cholera infantum, which he has found both in the dejections and in the intestinal mucous membrane. In the dejections, along with numerous other micro-organisms, Baginsky found masses of zoöglœa, whilst the Peyer's patches in the upper part of the small intestine were filled with microbes containing bacilli, the wandering of which into the submucous tissue could be frequently recognized. Here, also, the zoöglœa masses could be made out as well as in the dejections.—*Medical News*.

KAIRIN.—A NEW ANTIPYRETIC.—Kairin was discovered last year by Fischer of Munich, and a few months ago was introduced into this country as a substitute for quinine. The word itself has been coined, and is used only for the sake of brevity and commercial purposes, the real name of the drug being oxychinoline-methyl hydride. Two other similar compounds, chinoline-methyl hydride, or kairoline, and chinolin-ethyl hydride, possess similar properties; but they are more difficult to prepare and very little is known about them. The hydrochlorate of kairin is a crystaline powder of a greyish-yellow color, freely soluble in water, and having a saline, bitter, disagreeable taste. The dose usually recommended is from a third to half a gramme, at intervals of not more than an hour, or an hour and a half; but the difficulty is to induce patients to take it. In the case of old people or weakly persons, the dose should not exceed one grain every alternate hour as it is apt to produce cyanosis and collapse.

Its pathological action has been investigated by Filehne of Erlangen, who considers that it is likely to form a valuable medicine. It has been given with much success in most febrile diseases. Its action is noticed in about half an hour after the dose is taken, the fall in temperature being often very marked. There is free perspiration, which continues only whilst the temperature is falling; for as soon as the lowest point has been reached, which occurs after from two or four doses, diaphoresis ceases, and the temperature remains constant.

During the sweating, it is said that patients are much relieved, especially if suffering from acute pneumonia. In this disease, not only is the temperature reduced, but the pulse is strengthened, and the pleuritic pains disappear. As soon as the treatment is discontinued, the symptoms return as before, the temperature rising to its original height.

The following scheme for using kairin has been worked out by Dr. Filhene, but whether anyone will feel disposed to follow his directions is doubtful. In the first instance kairin is administered in separate doses, of a quarter of a gramme each, taken on wafers, plenty of water being drunk with them. It is advisable to commence with doses of half a gramme an hour on the first day, and to give these four times successively, but not before the temperature has fallen below 100° Fahr. The temperatnre must be taken every two hours for the first day, and it would be still better to take it every hour. When the temperature has fallen to about 100° Fahr., only a quarter of a gramme is given hourly, and this is continued until the temperature rises perceptibly, when the former dose of half a gramme should once more be administered. A dose of half a gramme should be given at once should the patient experience the slightest chilliness. Should the half-gramme doses not have the desired effect in four hours, gramme doses should be given two, three, or four times, at intervals of an hour. When the half-gramme doses have an effect after four hours, though not a sufficiently decided effect, three-quarters of a gramme should be given about four times, at intervals of an hour. The dose of three-quarters of a gramme, or one gramme per hour, is to be stopped when a temperature of 100° Fahr. is reached, keeping a reserve dose in readiness, which is to be taken when the patient feels chilly. When the temperature again rises the treatment must be recommenced. We are told that, as the system neither gets accustomed to the medicine, nor shows any evidence of cumulative action, a careful days experimentation in the way indicated will suffice, and the dosing thus standardised on the first day may be subsequently adhered to. These directions are undoubtedly very precise, but they are more so than that—they are puerile.

Dr. Hallopeau, in a paper recently read before the Paris Hospital Medical Society, confirmed many of the above statements; and expressed an opinion that kairin, in non-poisonous doses, is in its action more powerful and rapid than any other known antipyretic.

Dr. Sassetski found it of much value in typhus; and he remarks that the pulse falls with the temperature; and that the excretion of nitrogenous and phosphatic substances is lessened. The urine assumes a green color, which, however, soon disappears when the administration of the drug is discontinued. Gerat, of Paris, finds that it is useful in all febrile diseases, including typhoid fever, acute rheumatism, septicæmia, tuberculosis, and pneumonia.

Professor Riegel is unable to confirm the statements of Filehne and other observers. He disputes the assertion that half-gramme doses will, in every case, reduce the temperature to normal in four hours; and he failed to obtain the desired result with even much larger doses. In no case was any favorable influence on the general symptoms noticed. On the contrary—as has been shown by Seifert—it had sometimes a most injurious effect, collapse setting in suddenly, so that stimulants had to be administered freely. He was of opinion that it could be given with safety only to the more robust, since it had a depressing effect on the heart.

Paul Guttman finds that kairin, like other antithermic agents, is incapable of shortening the duration of the disease, or ameliorating the symptoms. Compared with quinine, its action is more rapid, but far less persistent. Its high price, he thinks, must prevent it from coming generally into use.

Such is the present state of the question. It must be admitted that the prospects of kairin are anything but promising. It has been tried in this country, but has as yet found but little favor. It will probably have its day, and then die out as many remedies of the same class have already done.—*British Meaical Journal.*

Nitro-Glycerine and the Chloride of Gold and Sodium in the Treatment of Albuminuria.—Read before the Philadelphia County Medical Society, December 19, 1883, by Roberts Bartholow, M.D,, L.L.D.

Hitherto the therapeutics of renal diseases have not advanced in the same ratio as our knowledge of their pathology. It can not be said now that a cure has been found, but that two remedies of real value are available. My contribution to this symposium, on albuminuria, consists in an attempt to define the place which these remedies should occupy in a curative scheme. To do this, in even the briefest way, I must clear the ground with a preliminary statement.

I start with the proposition that those renal lesions united by the common symptom—albuminuria—are of neural origin. There is a kinship between diabetes and Bright's disease. One of these is sometimes substituted for the other; and during the course of some rare cases of exophthalmic goitre, this substitution occurs. Irritation of a certain part of the floor of the fourth ventricle is followed by glycosuria; of another part by albuminuria. The recent observations of Da Costa and Longstreth prove that a relation exists, whether casual or sequential, between certain renal lesions and degenerative changes in some ganglia of the abdominal sympathetic. The hypertrophy of the muscular coat of the arterioles, discovered by Dr. George Johnson, and the increased tension of the vascular system due to an irritation of the vaso-motor center in the medulla, both present in the chronic forms of albuminuria, are further evidences of the agency of the nervous system. It was, more especially, the condition of elevated tension of the vessels which led to the use of nitroglycerine. This remedy, before all else, reduces the vascular tension. It also lessens the work of the heart by removing the inhibition exercised by the pneumogastric nerve.

This remedy appears to have been first used by Mr. Robson, an English surgeon, in cases of albuminuria, and by him employed, because the high tension of the vascular system has proved to be so pronounced an element in the more chronic cases. I have myself seen some remarkable instances of relief—indeed, of cure—effected by it. If time were now available I could give some striking examples. In cases of mitral disease accompanied by albuminuria, it also renders the highest service; for the diminished peripheral tension lessens the work to be done by the heart, and assists in the more equal distribution of the blood. The effect of this in relieving the renal congestion is obvious.

Chloride of gold and sodium has quite another function. It has long been known that this remedy has a special direction to the genito-urinary apparatus. The ovarian and uterine organs in the female, the testes and vesiculæ seminales in the male, are stimulated by it, and the kidneys, by means of which it is eliminated, and in which it tends to accumulate, are decidedly affected by it in function and structure. In common with some other agents of the class to which gold belongs—for eaxmple, corrosive sublimate—the chloride acts on connective tissue and checks its overproduction, or its hyperplasia. It would be quite impossible in this note to go over the evidence on these points, and hence I must ask your assent to these statements. They have been accepted as true of gold, from the days of the alchemists and iatrochemists, as any one may ascertain from that curious collection of mediæval medical learning—the Anatomy of Melancholy. It has happened, strangely enough, that Hahnemann and his followers have profited by this knowledge, and have used gold preparations—especially *aurum potabile*—in the treatment of renal diseases with success.

How and when are these remedies to be used?

Nitro-glycerine is now administered, as all present know, in the form of the centesimal solution—one minim of the pure drug to 100 minims of alcohol. The initial dose of this one per cent. solution is one minim, which should be increased until the very characteristic physiological effects are produced. The susceptibility to the action of nitro-glycerine varies greatly, and hence the dose can not be stated in advance. It is necessary to produce some obvious effect. To maintain the same level of action, a slight increase in the dose may be required from time to time. As the effect is not lasting, the interval between the doses should not exceed three or four hours.

The administration of nitro-glycerine

should begin in acute cases immediately after the subsidence of the acute symptoms. It is indicated in chronic cases at all periods, but is more especially useful if given before hypertrophy of the muscular layer of the arterioles has taken place. When it acts favorably, the amount of albumen in the urine steadily diminishes. The mechanism of its action consists in the lowering of the pressure in the renal vessels. How far any curative effect proceeds from action of this remedy on the sympathetic system remains to be determined.

Chloride of gold and sodium is indicated in the sub-acute and chronic cases, especially the latter. The earlier it is given the better, if structural changes are to be prevented or arrested. The good effects to be expected from it will depend necessarily on the extent of the damage already inflicted on the kidneys.

The usual dose is one-twentieth grain twice a day, but this may be much increased if necessary. At the outset, one-tenth grain may be given; in a week the dose should be lowered to one-fifteenth grain, and after a month the regular dose of one-twentieth grain should be steadily pursued, with occasional intermissions. Indigestion, gastralgia, and colic pains, nausea or diarrhœa, are occasionally caused by it, and if so, the quantity administered must be reduced. It is usually borne without any discomfort, but after prolonged administration, salivation, weakness, emaciation, trembling, and other nervous phenomena may possibly occur. Such effects, however, are wanting in my experience.

The treatment of albuminuria by nitro-glycerine and the chloride of gold and sodium does not necessitate the exclusion of other means—hygienic, climatic, or dietetic. These remedies should, however, be given uncombined at different hours, and their actions should not be hindered or obscured by the effects of other agents given with like purpose. To this general statement there may be two exceptions: with nitro-glycerine, amyl nitrite or sodium nitrite may be given; with the gold and sodium chloride, corrosive sublimate may be combined. If doubts may be felt in regard to the propriety of depending on the utility of these remedies, they need not be long experienced; for if no good effects are observed in two weeks, they may then be discontinued.—*Boston Medical and Surgical Journal.*

SURGERY.

Angel-Wing Deformity.—An interesting case of this character is reported by Thos. R. Dupuis, M.D., Kingston, Ont., in the *Canada Lancet*:

This is a peculiar affection which, on account of its rarity, is more of a curiosity than otherwise. In the course of twenty-five years' practice I have met with three cases of it, and all of these have occurred within the last seven years. I also heard of another case from the first patient I saw with it. He stated to me that an acquaintance of his was similarly affected, and that he obtained relief by wearing a strap around his shoulders in such a manner as to keep a pad firmly pressed against the posterior surface of the shoulder-blade. The deformity is easily recognized, once its prominent features are known; but since so few authors have noticed it in their writings, a patient afflicted with it might easily pass under review without its being detected—the pain and weakness of the shoulder being referred to a sprain or bruise or to a rheumatic affection. To give such a short account of it as may refresh the minds of some of the readers of your widely circulated journal, is my object in detailing the following particulars:

The disease usually commences by pains in the shoulder and upper part of the arm, at the root of the neck, above the scapula or immediately beneath it; the pains may be of an intense darting neuralgic character, or dull and aching so as to produce a tired sensation rather than acute pain. Neuralgic pain may co-exist in other parts of the body. Loss of power in the parts and inability to sustain prolonged exertion with the arm and shoulder, gradually make their appearance. When the patient's arms are laid loosely by his or her side, very little deviation from the normal can be seen. By close inspection, however, the inferior angle of the scapula on the affected side may be found somewhat nearer to the mesial line than the other one, the vertebral border traced from below upwards, thus assuming a direction more outwards than natural, and the lower angle of the scapula may also be a little too far from the chest-wall. When the patient attempts to raise the arm, all these deviations are exaggerated and can be readily and distinctly seen. The arm can be raised voluntarily only to the horizontal position, and while this is being done the vertebral border of the scapula rotates outwards in such a manner that the anterior surface of the bone forms nearly a right angle with the wall of the chest. This leaves a very large and deep hollow between the thorax and the scapula, and thus exhibits that peculiar outstanding condition of its posterior border which has given this deformity the distinctive name of "angel-wing." Faradic reaction is lost and galvanic excitability greatly diminished in the paralyzed muscles. In long standing cases, atrophy of the muscles supervenes. This disease may be from two weeks to two months from the beginning of the pains till loss of power in the parts and the full characteristic symptoms manifest themselves, and it has an indefinite duration.

This disease generally occurs in weakly young persons, and may result from injury or overwork (and hence is more common in males and on the right side of the body), from direct injuries to the nerves, from falls, blows, wounds, carrying heavy weights upon the shoulder, from rheumatic influences contracted by sitting in draughts, or exposure to wet; and even the syphilitic poison has been suspected as a cause. In my first case, the patient was a loosely made, rapidly-growing farmer's son, about 18 years of age, in whom the disease was directly traceable to hoeing, having been a long time engaged in hoeing potatoes and corn. In my last, the subject was a delicately formed young lady, of nervous and excitable temperament, who had everdone herself by long hours and intense application at some fancy needlework which she was anxious to have completed within a given time.

Putzel says, "quite an extensive journal literature has been published on the subject, but as the paralysis which produces the affection is of comparatively rare occurrence, its real cause remains undecided." He further remarks that it is usually unilateral, and that the large majority of cases have been observed upon the right side. In the three cases which I have seen, the first was upon the right side and the last on the left side; but I cannot now remember on which side the second was. The same author gives this disease the pathological name of Paralysis of the Serratus Magnus; but I refrain for the present from giving it other than the synonym heading this article, as its real pathology does not seem to be entirely agreed upon.

By consulting authors, I have found several notices of this affection, the descriptions of it varying somewhat in each; and by two, the disease formerly supposed to be "dislocation of the former angle of the scapula over the latissimus dorsi muscle," is considered as a part of this affection.

In the "*System of Surgery*," edited by T. Holmes, second edition, vol. ii, p. 557, the following occurs in a note following sprain about the shoulder: "In connection with this subject a curious injury may be mentioned, which has been described as displacement of the inferior angle of the scapula over the edge of the latissumus dorsi muscle. . . . ." Then follows the report of three cases, being all that the writer had been able to collect of *anything analogous to this*, and none of these, he says, did "exactly correspond with the description given by Liston; for although the posterior border and inferior-angle of the scapula projected very markedly, there was no account of any injury, and the affection seemed rather to be *paralysis of the muscles* attached to this part of the bone, especially the serratus magnus." "In the last mentioned case," he continues, "the subject was a delicate looking girl of fourteen; the whole of the posterior border of the right scapula was very prominent, and seemed to meet the skin covering it almost at a right angle. The inferior angle projected only a little more than the rest of the border, but the fingers could be passed fairly beneath it. The scapula could easily be pressed into the proper position, but it immediately started back again when left to itself. The motion of the arm was weakened and impaired." The writer further on states as follows: "I have seen a few similar cases. In all, the projection of the lower angle of the scapula was apparently due to atony of the muscles attached to the vertebral border of the bone, and in no instance was there a history of any antecedent injury."

Professor Gross describes a mal-position of the scapula, which he thinks arises from paralysis of the rhomboid muscles, and which, in its semeiology, evidently agrees with the disease under consideration; he holds also that that condition termed dislocation of the scapula, in which the inferior angle is suposed to lie upon, instead of beneath the latissimus dorsi, is frequently of a similar nature and depends upon relaxation of the muscles. Excepting that form of "dislocation of the scapula" of the older authors, the affection referred by Gross to paralysis of the rhomboid muscles, and the "angel-wing deformity," supposed by Putzel to depend upon paralysis of the serratus magnus, are varying phases of the same disease.

What then is the true pathology of these abnormal conditions of the scapula? Gross inclines to the view that the chief trouble is paralysis of the rhomboid muscles, the writer in "*Holmes' System*" that the serratus magnus is implicated as well; and a late case exhibited before the clinical section of the Birmingham and Midland Counties Pathological Society, Nov. 30th, 1883, elicited the following opinions: "Mr. W. F. Haslam showed a patient with an affection of the scapular muscles, which allowed the right scapula to project from the thoracic wall when the shoulders were thrown back. The right acromion was depressed, and the arm could not be raised much above the shoulder. He thought the condition due to paralysis of the trapezius. Mr. Jordan Lloyd believed the rhomboidei were the muscles most in fault. Mr. Bennet May thought the serratus magnus was the muscle paralyzed, and that the lower end of the scapula had slipped from under the latissimus dorsi."—*Brit Med. Jour.*, Dec. 8, 1883.

I have inserted this case here to illustrate the obscurity in which the true patholopy of this affection is shrouded. My own opinion is, that the serratus magnus and the rhomboidei muscles must all be more or less paralysed, to produce the affection in its fully developed state. Paralysis of the serratus magnus alone, while it would permit the vertebral border of the scapula to recede from the thoracic wall, could not produce that outstanding condition of this border of the scapula so characteristic of this affection, because the rhomboideus major and minor would resist it; and not only would they resist it, but from their obliquely downward and outward course they would pull the lower angle of the scapula upwards and inwards, and cause the vertebral border to assume a direction very obliquely upward and outwards from the mesial line of the back. This direction of the vertebral border is not decidedly marked; hence it follows that the rhomboidei must also have lost their contractile power. Now paralysis of the serratus and rhomboids together would produce the condition of parts we are considering, while the trapezius and levator anguli scapulæ still retained their power; the first of these holding the scapula in place laterally and preventing rotation downward and forwards; the latter holding the scapula up and preventing it from sinking down perpendicular along the side. If we examine the origin of the nerves supplying these muscles attached to the scapula, we may arrive at a better understanding of the lesions that are present. The trapezius is supplied chiefly by the spinal accessory, but receives communications from the cervical plexus; this, therefore, may be laid aside for present purposes. The levator anguli scapulæ is supplied chiefly by branches from the cervical plexus; but the cervical plexus is formed by the anterior branches of the four upper cervical nerves, and is, therefore, above the source of nerve-supply for the serratus magnus and rhomboidei. The rhomboid muscles and serratus magnus are supplied by branches from the 5th and 6th cervical, the rhomboid branches being from the 5th alone, and that to the serratus—the posterior thoracic—from both the 5th and 6th. It is quite reasonable to suppose that if the cause of paralysis existed at the roots of the nerve to the serratus magnus, the nerves to the rhomboidei also, which arise with one of the roots of the foregoing, would suffer, and we ought to have paralysis of the rhomboidei co-existing with paralysis of the serratus magnus. Putzel, although he refers it to paralysis of this last muscle alone, very judiciously adds: "The other muscles of the scapula and shoulder should also be carefully examined, as we not infrequently find that the same cause which has produced the affection under consideration, has also given rise to paralysis of some of the other adjacent muscles." We are, therefore, forced to the conclusion that "angel-wing deformity" is due to paralysis, more or less complete, of the serratus magnus and the two rhomboids, and that the projection of the lower angle of the scapula, heretofore described as "dislocation over the latissimus dorsi," is due to the relaxed condition of the muscles that hold the scapula in place, and is not an independent affection. Of course the paralysis may not stop here, but other muscles of the shoulder may become implicated, according to the gravity of the cause producing the injury to the nerves; but for the production of the affection under consideration paralysis of the three muscles stated is sufficient, and all of these, I hold, must be involved to produce a typical case.

A few words with respect to the treatment of this disease may not be out of place. As the subjects of it are generally weakly and ill nourished of over-worked young persons, the first great object is to improve the general condition of the patient. Fresh air, gentle exercise, good diet, with the use of the shower bath or salt water bathing, friction over the body, chalybeate tonics, nux-vomica, and such other remedies as adapt themselves to the circumstances of the patient. Putzel, from whose work I have already quoted, recommends electricity as the great means of cure. One electrode should be placed over the roots of the affected nerves (on the neck, above the clavicle) and the other over their distribution, as in the axilla, along the origins of the serratus magnus, or behind the chest, between it and the outstanding scapula. Counter-irritation, if there is pain, and the use of morphia when urgently demanded. Many other means will readily suggest themselves to the attendant physician, once he is fully satisfied as to the pathology and etiology of the disease.

NARCOSIS BY CHLOROFORM, BY ETHER, AND BY NITROUS OXIDE.—Neudörfer (in the *Deutsche Zeitschrifte für Chir.*, Band xviii.) investigates the above and comes to some highly important conclusions, which may be thus summarized. 1. Air cannot hold more than 20 per cent. of its bulk of chloroform-vapors at the ordinary temperature and pressure. 2. Chloroform acts as a poison upon the red blood-corpuscles, but only slowly, even upon corpuscles at rest, whilst those circulating through the lungs are not long enough under its influence to be destroyed. 3. It has been found by Bernard Gréhaut, Hoppe-Seyler, and Hermann, that hemoglobin has a greater affinity for carbon monoxide than for oxygen, and for nitrous oxide than for carbon monoxide. In other words, in presence of an excess of carbonic oxide the blood cannot absorb oxygen, and in presence of an excess of nitrous oxide the blood cannot take up either carbonic oxide or oxygen. Hoppe-Seyler and Gréhaut think that if the weakest of these gases (in their affinity for hemoglobin) be previously present in excess, it hinders absorption of the gases of stronger affinity. As to this, the authors think that it does not hinder this absorption, but that the latter are thus rendered innocuous, and also that the affinity of hemaglobin for oxygen is not constant, but varies within certain limits. 4. If to an individual, whose hemoglobin has a relatively weak affinity for oxygen, we give to narcosis a mixture of 20 volumes of chloroform-vapor to every 80 volumes of air, he breathes a mixture holding 16 per cent. of oxygen instead of the usual 20 per cent. in the air, and it may happen that he may take up little or no oxygen, and the chloroform may exert its fatal effect. This is a simple and sustained method of explaining death by chloroform. 5. Now, arguing by analogy, since the very poisonous carbonic oxide can be rendered innocuous by the previous presence of other gases in excess, it is to be presumed that in a mixture of chloroform-vapor *and oxygen*, the chloroform could not exert its evil effects upon the blood-corpuscles. 6. There would be no danger of oxygen-poisoning, for the quantity given would be within the limits of the variations of oxygen taken up in nasal respiration. 7. The bad after-effects of chloroform would be done away with. 8. Twenty per cent. of chloroform-vapor would be unnecessary, since three to five per cent. are quite enough. 9. As to ether, it can be mixed up with oxygen up to 43 per cent., but it cannot compete with chloroform, because it possesses no constant chemical constitution, and its behavior to human tissues is more prejudicial than that of chloroform. 10. The mixture of nitrous oxide and oxygen acts equally as well as the chloroform and oxygen mixture. 11. Oxygen is easily administered by Limousin's apparatus. 12. Narcosis thus caused is absolutely devoid of danger.—*British Med. Journal.*

ANTISEPTIC SURGERY AT BELLEVUE HOSPITAL.—By Robert T. Morris, M.D., New York, in the *Medical Record.*

Whether a surgeon believes in the germ-theory or not, is a matter of little practical importance; but certain facts which are pertinent to the subject of germ development must be accepted by all. The discharges from wounds contain nutritious material for bacteria of different forms, and these bacteria rapidly avail themselves of the opportunity to propagate their kind whenever they are not prevented from doing so. The products of the decomposition caused by their growth are irritating to a wound, and change the natural order of reparative processes, to say nothing of the probability that special bacteria provoke particular forms of inflammation.

Any one can see bacteria who will take the trouble to look at them, and any one can appreciate the harmful influence of their presence in a wound if he will compare a wound containing many of them with a wound in which few have been allowed to enter. We are possessed of the means for restraining the development of bacteria, and whoever fails to gain this end fails to avail himself of the proper opportunities for making an aggression against the entrance of bacteria into a wound.

If the surgeon be perfectly familiar with the nature of fermentation processes, it is still no easy matter for him to take the necessary precautions for preventing them, and the most rigid following out of the technique in his methods is required to insure success. Success is sure to follow strict antiseptic precautions, but it must be remembered that bacteria will crawl into the spigot if the bung alone be stopped.

Probably no better place than Bellevue hospital can be found for comparing the benefits of antiseptic measures with the results of ordinary wound treatment, and the wards where the details for keeping wounds in an aseptic condition have been carefully studied most gratifying results have been obtained. It is a common thing for very bad compound fractures and the largest of operation wounds to heal under one or two dressings, and such dressings remain perfectly sweet for three or four weeks at a time, so that there is no necessity for the surgeon disturbing them in any way. The patient, instead of having his wounds dressed every day or two while profuse suppuration is draining away his strength, quietly reads his paper and peacefully chews his tobacco while the surgeon passes through the ward and glances at the temperature chart at the head of the bed. In the wards in question, pyæmia and septicæmia are unheard-of diseases, and foul, purulent wounds are entirely out of date. Primary union is by far the commonest method of repair, and in granulating wounds the discharge is so small in quantity that it seldom appears through the permanent dressings.

Various methods and different kinds of antiseptic dressings are employed in the different divisions, but the commonest antiseptic solutions are of carbolic acid, bichloride of mercury, salicylic and boracic acids. Iodoform is in constant use. Carbolized gauze, borated cotton, or prepared peat, form the larger part of the bulky dressings. Ligatures are carefully prepared before being used, and so are drainage-tubes and protection silk. The solutions of carbolic acid are aqueous ones, and in the proportions of one part to twenty, one part to thirty, or one part to forty, of water. Bichloride of mercury is diluted with from one thousand to five thousand parts of water. Salicylic and boracic acids are usually combined in the proportion of one part of the former to six parts of the latter. and these are dissolved in five hundred parts of water. In some of the wards the orderlies and nurses are given written directions, and the following is a copy of these:

"1. No one shall touch a wound, or the vicinity of a wound, unless his hands are thoroughly carbolized.

"2. No material shall be allowed to touch a wound, or the vicinity of a wound, unless it has been anticeptically prepared.

"3. No sponge shall be employed about a wound unless the sponge has been antiseptically prepared.

"4. No prepared sponge shall be used after it has come in contact with any substance which has not been rendered aseptic.

"5. Sponges are not to be touched by any person whose hands are not carbolized.

"6. Sponges employed are not to be used at more than one operation.

"7. During an operation sponges that are bloody are to be washed in a solution of carbolic acid (1 to 40), and by a person whose hands are carbolized.

"8. Protective silk and rubber drainage-tubes are to be kept in bottles filled with carbolic acid solution (1 to 40), and these articles are to be removed by senior or junior assistants only.

"9. All material for dressings is to be kept in a perfectly clean place, and the material shall be handled only by carbolized hands.

"10. Dressings are to be made up by such persons only as have carbolized hands.

"11. Dressings are to be prepared on

clean towels, and must not touch surrounding objects.

"10. Instruments are to be kept in carbolic acid solution during an operation, and handled by antiseptic hands only."

In giving a description of the routine which would be followed in an operation, it is best to select some particular case. Let us suppose, for instance, that a man who has suffered a compound fracture of the patella has been brought in. The patient having undressed is placed upon a table, which is covered with a rubber blanket and which slopes downward from the end where his head lies. The blanket is gathered at the lower end of the table so that irrigating fluids may run into a pail placed for their reception. Above the table is suspended a large pail which contains any one of the antiseptic solutions which the surgeon may prefer, and descending from it is a long rubber tube supplied with a sprinkling nozzle and stopcock. The injured knee is now scrubbed with soapsuds and the hairs in the vicinity are shaved off with a sharp scalpel or razor. The knee and the leg above and below are washed with a strong carbolic acid solution, and towels which have been wet with the same are placed in every direction about the limb, leaving exposed only that portion which immediately concerns the operator. One assistant is to share the work of the operating surgeon, another handles instruments, and another manages the irrigator. The nurses handles the sponges which are being used by the surgeons, and all parties, with the exception of the one who gives the anæsthetic, have rendered their hands asceptic. The operator now makes an incision which opens up the knee joint widely and exposes the fragments of the patella. The fluid from the irrigator is thrown in jéts over the wound and all clots are washed away. Bleeding vessels are attended to, and the fragments of bone trimmed so that they may be readily approximated, and at frequent intervals the irrigator is made to play over the exposed parts. The patella having beén firmly wired with strong silver wire, the soft parts are brought into place and sutured with catgut, each structure being seperately sutured. A drainage-tube has been inserted through a counter opening at the most dependent part of the synovial sac, and everything is ready for the dressing. Iodoform is first sprinkled over the wound, and then strips of protective silk are laid upon the sutured line of incision. Wads of loose carbolized gauze are placed about the knee to allow of free percolation of discharges, and over all a bulky dressing of borated cotton, between layers of carbolized gauze, is bandaged with a carbolized roller bandage. Any splint which the surgeon may prefer is then applied, and the patient placed in bed. If serum appears through the dressing afterward, idoform, is sprinkled over the part and an aditional wad of borated cotton bandaged on. Should the surgeon wish to change the dressing an irrigator is employed for sprinkling the knee while this is being done. If absorbable drainage-tubes have been used, the dressing will probably not be changed for several weeks; but if the drainage tubes be of rubber they would be removed at the end of ten days.

A patient treated in the manner described, would probably not have at any time a temperature much above normal, and it is a common thing far all of the vital signs to remain normal after the first day or two. In case the temperature should run up to 102°F., a change of dressing and a purge would be indicated.

After the patient has remained quite long enough for reparative processes to be completed the dressings are removed, and the surgeon has only to begin passive motion for the completion of his restorative measures.

MUDTIPLE NEUROMATA.—A case of multiple neuromata on the peripheral nerves, and in the spinal cord, was related at a meeting at Freiburg, in September (*Berliner Klin. Wochensch.*, October 29,) These tumors we found in great numbers both in the white and grey matter of the cord, at the exit of the posterior roots of the nerves, on several cerebral nerves, and upon almost every spinal nerve. Microscopical examination found them to be fibro-neuromata. These growths had produced no special symptoms corresponding to them, with the exception of local anæsthesia, and a degree of muscular atrophy of the lower extremities. During life the case had seemed to be one of chronic myelitis, or of lateral scleriosis.—*British Med. Journal.*

I have used Churchill's preparation as made by J. A. McArthur with the most decided benefit, and am satisfied that a fair trial is all that is required to establish its therapeutic value.

I have at this writing several cases in which the Syrup is doing beyond my expectations. PHILIP LEIDY, M.D.

PHILADELPHIA, Pa., Feb. 6, 1894.

Original Articles.

NEUROSIS.

AN INTERESTING CASE FOR STUDY AND SCIENTIFIC INVESTIGATION.

By CHAS. P. KING, M.D., Newark, Ohio.

There is perhaps no class of diseases about which more has been written and yet so little positively known as those of the nervous system.

So very intricate is the entire mechanism of this portion of the human body, and so intimately connected are all its anatomical structures, that it is often an exceedingly difficult matter to discriminate between what might be called a functional or organic disease of the nervous system.

The scientific world owes a lasting debt of gratitude to those eminent scientists, Dr. Brown-Séquard, of Paris, and Dr. Hammond, of New York, for their valuable contributions to medical literature on this important subject.

It is a statistical fact, that the per cent. of diseases of the nervous system is rapidly on the increase, not only in our own country but also in Europe, and various theories have been advanced with a view of explaining, if possible, this condition of affairs.

The types of disease, like the types of character, change with the progress of civilization. Many diseases now prevail which were wholly unknown in early times.

Among the many special exciting causes which have brought about this condition, I might mention our present mode of living, pressure of business, total lack of proper exercise, overtaxing of the mental powers, sexual excesses, and the abuse of stimulants and narcotics.

It is not my purpose at this time to enter fully into the discussion of this important subject (which I hope to do at some future time), but merely to report a case occurring in my practice.

The following salient points, in what proved a most interesting case to me, I have very hastily condensed from my medical note book. Practical cases after all are the ones which are of most interest to the busy practitioner, and every physician in active practice should feel in duty bound to report each and every case of interest occurring in his practice.

Mrs. —, age sixty years. Health had been unusually good until some eight years ago, when, without any premonitory symptoms, she was suddenly stricken down with paralysis. I was summoned in great haste, found her insensible, left side of face paralyzed, involving also entire left side, a very marked case of hemiplegia. My treatment was wholly expectant, as she was of an exceedingly nervous temperament, gave but little medicine and waited results.

She remained in an insensible condition for about twelve hours, after which she rallied and gradually returned to consciousness, the hemiplegia still remaining. She has been under my care at various times up to the present time and has so far recovered as to be able to walk with a cane. She has recovered the use of her limb to some extent; her arm, however, still remains paralyzed, having lost the use of it entirely.

My treatment of her case has been a mixture of strychnia, iron and wine, together with friction to the extremities, and also counter irritation along the whole course of the spine. I have also been exceedingly careful about keeping the outlets of the body open, paying special attention to the bowels, kidneys and skin. I have also administered electricity at various times with very happy effects. She had so far regained her health that I withdrew everything in the way of medicines, and have been treating her with electricity alone for some time past; and, aside from her paralysis, her general health has been much better than I had any reason to expect.

Not long since I was summoned in great haste to see her and found her in a very strange condition indeed. The left leg, also the arm and hand, were perfectly rigid, there was at times spasmodic contractions of the muscles, and while in this condition it was impossible to bend the leg or arm, so severe was the rigidity. This rigidity of the muscles continued for about two hours; there was labored action of the heart, accompanied with much physical prostration, the extremities were cold, the pulse was very rapid but feeble, the temperature slightly below the normal. I was inclined to attribute this condition to a hyperæsthesia of the spinal cord, and was fearful lest it might be the forerunner of another paralytic attack. Gave stimulants and had the extremities rubbed with stimulating embrocations, also used counter irritation on back of neck and over the spine.

The treatment proved successful and the bad symptoms gradually subsided.

Since that time she has had three or four similar attacks like the one I have mentioned. These attacks seem to be more severe each time. I could find nothing in our literature touching upon this case that would throw any light upon it, and at times was utterly at a loss to explain this strange phenomena. A prominent physician of our city saw the case with me in consultation, and he was as much at sea as myself in his attempts to explain it. He would not and did not prescribe, saying that he had never in his experience seen a case of this character.

Having studied the case thoroughly, my attention was turned to the fact that there seemed to be a sort of *periodicity* about these attacks. That is, they seemed to come on at stated intervals—the patient between the paroxysms being in comparative ease and comfort.

I concluded to try what effect "heroic doses of quinine" might have in controlling these paroxysms. Not long since I had an opportunity to give it a trial and I am happy to say with good results. I have been giving it at stated intervals for several months past and there has been no return of the paroxysms. The patient informs me that she feels better in every way since she has been on the quinine treatment. How long it will last I cannot say, but am in hopes that I have found the *key* whereby I can control this peculiar nervous condition entirely. I say *nervous condition* for I do not know what else to call it.

I will watch the case carefully and make a further report at some future time. I have reported this case, hoping that some of my professional brethren who have had a more extended experience than myself in the treatment of such cases might be able to throw some light upon what, to me at least, is a very strange phenomena.

I might mention, in this connection, that the patient after these violent paroxysms is in a very feeble and depressed condition which continues for some time. The attacks also come on suddenly without any premonitory symptoms. I have never been able to discover any fever after the attacks, although the face at times is flushed; nor is there any perceptible chill, followed by perspiration, and yet it seems to yield to *quinine*, which would indicate that there must be some malaria connected with it, although this alone would not explain this strange condition.

I might mention that there is no hysteria or uterine disease involved in this case.

NOTES OF A CASE OF INFLAMMATION OF THE CERVICAL PORTION OF THE SPINAL CORD, THE RESULT PROBABLY OF AN INJURY; FOLLOWED BY TETANIC SYMTOMS.

A Paper read before the College of Physicians and Surgeons, Philadelphia, January 2, 1884, by

CHESTON MORRIS, M.D.

I desire to call the attention of the Fellows to the following report of an interesting case in which the diagnosis was obscure:—

On Sunday, Nov. 25, I was consulted by Dr.—— about the case of his daughter, an intelligent, lively girl aged 12, of spare, nervous habit, but generally good health, except that about a year previously she had suffered from slight chorea. He thought she had mumps, but was afraid that the stiffness of her jaws and slight pain in the back and neck, which were all the symptoms complained of, might be due to diphtheria, or else to cerebro-spinal meningitis.

I told him I thought it was probably only the result of a slight cold and was rheumatism; if, however, he felt uneasy he had better send for Dr. Darrach (in whose neighborhood he lived), and if necessary I would see her in consultation. Dr. D. telegraphed me to meet him the next morning, and he told me he had found the girl's jaws firmly locked the previous evening, and there was considerable opisthotonus. As we entered the room a convulsive movement passed over her features, with much suffusion of the face, which soon subsided, leaving, however, a sardonic expression of countenance and marked opisthotonus.

We both thought these convulsive movements might have arisen from dread of my repeating the efforts which had been vainly made the night before to open her jaws; but it was soon evident this was not the case. She complained of no pain, and bore handling and examination well, but nothing further was elicited. Her pulse was about 119, skin and temperature normal, or nearly so, tongue slightly furred, respiration rather frequent, but no evidence of lung or heart trouble. She lay on her right side, her head drawn back, with the spinal muscles strongly contracted, and occasionally spasmodically drawn. The abdominal walls were somewhat harder than natural.

Our diagnosis was congestion of the cervical region of the cord, whether of choreic or rheumatic origin we were in doubt, as the symptoms and history gave no clue. Still, the indication seemed to be to allay the spasm, and we directed the administration of full doses of fluid extract of conium, alternated with full doses of opium and belladonna, and liquid nourishment.

Dr. Currie assisted Dr. Darrach, in charge of the case.

I saw her again on Wednesday morning; Her pulse had fallen to 104; skin and temperature normal; she expressed herself as rather easier, and wished to be moved to the other side of the bed, which was accomplished to her relief. The trismus had yielded very slightly; the spasms occurred at longer intervals but were rather more marked. Dr. D. thought there had been some increase of reflex cutaneous sensibility the day before in the lower extremities, but this had passed away. Careful examination showed absence of the patellar tendon reflex, but the sensitiveness of the the skin to touch was normal. Our conclusion was that the spinal congestion has passed or was passing into the stage of effusion, but as it did not seem to be extending we hope for a good result. The bowels had not been moved, and were becoming distended with flatus; enemata of flaxseed tea and assafœtida were, therefore, ordered, and previous treatment continued. She, however, soon after became worse; delirium supervened, and she died in a convulsive attack on Thursday, November 29, at four o'clock a. m.

I requested an autopsy, permission for which was given Dec., 2, "if I still thought it necessary after learning that some three weeks previous to her sickness she had had a severe fall forward, striking her head so as to make her nose bleed severely; the blood also settled under her eyes." The autopsy, at which only the cervical cord was allowed to be examined, took place at four p. m., three days and a half after death. On opening the spinal canal, by incision through the back of the neck and sawing through the vertebral processes on each side, a bloody serum escaped from it; the lining membrane of the canal and the dura mater of the cord were deeply congested, and the cord itself felt softened; it was detached as carefully as possible, and the finger passed up through the foramen magnum into the cranial cavity. The foramen was smooth, but just below it on the anterior wall of the canal, the odontoid process of the second cervical vertebra was denuded, and felt rough to the finger, almost carious. Unfortunately, as permission had not been obtained for examining the brain, and it was important to avoid disfiguring the body, no ocular demonstration could be made. The portion of the cord removed was placed in the hands of Dr. Morris Longstreth with the above history.

The case seems to me to be a very interesting and instructive one. A injury by *contre-coup* to the ondontoid process followed by inflammation of the spinal cord and tetanic symptoms coming on insidiously three weeks after the injury, in the case of an individual of choreic, rheumatic antecedents, was perhaps hardly to have been diagnosticated more correctly with the information we had. I may add, that her uncle, the son of one of the Fellows of this college, died of fracture of the cervical spine, the result of an accident, some thirty years ago.

I also subsequently learned that she had complained of pain in the back of the neck, after the fall, to the cook, and the mother informed me when I first saw her that she had for several days previously spoken of slight pain in the upper and middle part of the spine, which she supposed to be rheumatic or due to a slight cold taken while gathering walnuts. She also noticed on these days a peculiar drawn expression of the face, which occurred while she was at table, when the stiffness of the jaws was first noticed which gave rise to the supposition that she might be getting mumps.

Dr. Morris Longstreth submits the following note on the examination of a portion of the cervical spinal cord.

The substance of the cord is slightly softened. The larger vessels of the pia-arachnoid are very full of blood and very conspicuous. The general aspect of the surface is pinkish, indicating an injection of the smaller vessels. A cross-section of the cord presents nothing to note. The inner membranes can be more easily separated from the cord than normal, and it is apparent from their examination that there exists a slight exudation which renders their tissue somewhat opaque.

The microscopic sections were made, after a short immersion in alcohol and subsequently in Muller's fluid, by freezing. The tissues of the membranes appear swollen, their fibres are separated, and in places the interstices show a minute amount of exudation materials. The inflammatory material is also on their outer surface, but the amount of it is not considerable. It is composed of fibrinous threads, in which are entangled a small number of nuclei. The bloodvessels are large, the swelling affects their walls, and many of them contain blood corpuscles and clots. The specimens—those that were stained with a carmine fluid—show these parts deeply colored, and the nuclei are unusually conspicuous.

On the inner surface of the membranes toward the cord, the inflammatory changes of the same character are also seen; they extend into the substance of the cord but a short distance. The portion of the cord at its surface is markedly granular. The same changes are found in the portions of the membranes which extend into the anterior and posterior fissures of the cord, but at these parts the morbid condition is less distinct. The bloodvessels, ramifying in the substance of the cord show slight alterations of a similar character, and around them at a few places there appears a very slight exudation in which the nuclei stain deeply.

The nerve tubules and the ganglion cells of the cord show no appearance of change. The tissue of the cord, however, showed some alterations. Its general appearance was more granular than normal; this change was irregularly distributed, more marked always near the surface, but uneven in the depth of its extension. It is uncertain whether it is more marked around the capillaries in the interior of the cord, where it is often conspicuous in cases of tetanus. It must be noted that the effusion around these capillaries is very slight, however. The change of the tissue can be described as a granular disintegration, and, judged by its character and its situation, was probably induced by inflammation of the membranes affecting the contiguous parts of the cord. In one or two places, bundles of nerve filaments (cross-section of the spinal nerve roots) are seen attached to the outer surface of the membranes. Around these bundles and among the fibres the inflammatory changes are especially well marked.

Remarks on the Post-mortem Changes and the Microscopic Appearances.—The post-mortem changes, taken in connection with the history and symptoms, show that the tetanic spasms were due to the inflammatory condition of the cord. The inflammation was most marked at the portion of the cord from which are derived the filaments of the nerves distributed to the muscles alone implicated in the spasmodic contractions. It would seem that the impress was communicated directly to these nerves, probably before their exits from the dura mater, since we see the inflammatory changes conspicuous around some of the filaments of which they are made up.

The changes in the cord, as here seen, are not of the character found in tetanus; at least they do not equal in degree those usually found. Here the vascular exudation is very slight or entirely wanting, and the granular disintegration is slight and localized, and evidently communicated from the inflammation of the membranes. In tetanus we have no inflammation, the changes consisting of exudation, mostly or entirely fluid, which leads to granular alterations of the tissues of the cord. Here we have a very evident, though slight, inflammation which has produced somewhat similar alterations of the cord, partial and much less in degree and only approaching the tetanus changes in kind.

DIABETIC PNEUMATURIA. — A curious case of this rare affection, observed by Dr. Guiard, is summed up in the *Journal de Médecine et de Chir. Pratiques* for 1883, Art. 12361. The chief symptom was the occasional escape of odorless gases through the urethra after micturition. There was no signs of a communication between the intestine and bladder, but the urine was acid, and contained sugar. The patient having been repeatedly catheterized before the apparition of the pneumaturia, it seems probable that an acid fermentation of the diabetic urine had been set up, in consequence of the introduction of some germ-laden air.—*British Medical Journal*.

Correspondence.

THE BAHAMA ISLANDS.

Editors Lancet and Clinic:

The following letter to a colleague from one of our well-known practitioners in this city contains items of such interest as to justify its publication:

NASSAU N. P., BAHAMAS, Jan. 17, '84.

My Dear Doctor: — You are probably surprised at receipt of this note from me, situated as I am among these barren, coral islands. I am prompted thereto by hearing your name not infrequently mentioned by patients whom you have recommended to come here for the improvement of their health, by their friends, and by Dr. McLure, a native practitioner of New Providence. I want to say to you that you have "hit the right nail on the right head" by sending here patients affected with pulmonary trouble. As you are already probably aware, I havé myself been in delicate health for three years. During that time I spent one season divided between N. P. and Florida—a summer in the "New Northwest" and last winter in the Bermudas. The Bahamas are superior to any winter resort of the Western Hemisphere for pulmonary troubles. I presume they are not surpassed in the world, except by the Madeiras, and not even by them in the winter—only during other seasons of the year. Any consumptive, in its incipient stage, coming and *remaining* here for two or three *full* winters will assuredly get well. A patient in the *second* stage stands precisely an even chance of living or dying, while one in the *third* stage had better, of course, remain at home to die amongst his friends. The climate is equally as efficacious for nervous disorders, and *very* good for chronic Bright's Disease. It is not adapted to rheumatic affections and other chronic maladies, chronic nerve disorders and albuminuria, it is, as before stated, unsurpassed. Of course, it is often difficult to induce patients to come here sufficiently early in the season, to remain here late enough in the spring, or to stay here at all. But that does not militate against the fact that the climate will do almost everything for them if they will be but contented to stay. I advise my patients to remain here till late in March or early April, and then not go home directly, where even at such late date there may still be experienced the rigors of winter. Rather, I recommend them to go to Florida or the Carolinas and work their way gradually northward, reaching the latitude of Cincinnati, perhaps, about the middle of May. The good that a patient has derived from a season here is often obliterated by a sudden transition from Nassau to New York, or some other city situated, perhaps, between 35 and 50° north latitude. In all the Bahamas the climate is, perhaps, equally favorable; but New Providence is usually chosen because it possesses the capital (Nassau) of the group, and because all the comforts of life may be readily and cheaply obtained here. The outlying islands possesses so few comforts that an invalid requires that he must be well enough to "rough it" somewhat ere he attempts to make them his residence.

Here we have the best hotel in all the West Indies, and also a number of excellent boarding houses, where every comfort may be obtained, in the latter at the rate of $12 to $15 per week, and at the hotel at about $3 per day.

I am not suffering from pulmonary troubles of late, though when here before I was just recovering from broncho pneumonia. For the last two years I have been a sufferer from insomnia, nervous disorders, and frequent attacks of malaria. There is no malaria here, no matter what you may hear to the contrary. The capital contains a population of from nine to ten thousand, the island 14,000, and the whole group of islands about 44,000, three-fourths of whom are black. Nearly half a century of freedom have made the colored people here thrifty as it is ever possible to make the negro, intelligent, too, as there is a compulsory educational law *in force*, and they are very law-abiding. They are represented in the two houses of Parliament, and withal are a credit to their race, even though some of them still speak only the Congo tongue, or that of the tribe to which it belonged before having been brought into the Bahamas.

The physicians here are about half a dozen in number, and rank rather better than *our* doctors. Most of them have graduated in medicine in London. Perhaps Dr. McLure and Dr. Kemp are the leading practitioners. Mails reach us but once in a fortnight, and the only way for an Amercan to get here is to take passage from New York on the "Ward Line," which leaves that city every alternate Thursday.

I have now been here several weeks, am improving handsomely, but do not expect to return for at least two months. In the meantime I shall visit Cuba, Jamaica, perhaps other islands, thence to Vera Cruz, and by Mexican National Highway close my tour by quite a stay in the capital of Mexico.

PHILADELPHIA NEWS.

PHILADELPHIA, Feb. 9, 1884.

Editor Lancet and Clinic;

The streets of the Quaker city have never been in such a filthy condition as at present. The snows have fallen, one after the other, only to add to the piles of mud and ice that have accumulated during the past six months.

The street-car companies of Philadelphia use ploughs that throw the snow to one side of the street, where a mixture of gutter draining, dirt, and ice is formed, which remains giving off unwholesome emanations, until a kind Providence sends rain in sufficient quantity to clean the streets. Notwithstanding this, and the fact that our water-supply is polluted by the sewers, factories, and drains of the upper portion of the town, the death rates have not increased, neither has an epidemic appeared.

In the days of old, epidemics, plagues, misery, and death resulted from just such causes, and it is doubtful if the streets of the cities in plague-ridden countries were ever more filthy than those of Philadelphia.

During the winter some valuable papers have been presented, and discussions of great interest aroused at our various medical societies.

The vexed question upon the subject of *tubercle* and *tuberculosis* have been attacked and defended by some of our best pathologists. The darkness and uncertainty surrounding this entire subject, is equal to, if not greater, than that relating to the subject of syphilis. Such high authority taking one view and then abandoning their opinions, causes us to doubt the views expressed by equally high authorities upon the other side. At a recent meeting of the County Society, Dr. Formad read a paper on "The Bacillus Tuberculosis and the Etiology of Tuberculosis." The paper was one of Dr. Formad's best productions. It presented a brief review of the present standing of the tuberculosis question, and advocated the unity of phthisis. The reference made to the natural history of the disease was brief but thorough. He undertook to deny that tuberculosis was infectious, and considered that evidence was lacking to prove contagion from person to person. The objections to the parasitic origin of phthisis presented and considered, the bacillus tuberculosis being recognized as *one* of the *possible* causes.

The paper was intensely interesting, and gave evidence of long-continued investigation, but the discussion that ensued served only to increase the gloom surrounding the subject.

The number of medical societies here is on the increase, and there is no telling where they will stop; it is the same in regard to medical colleges, "always room for another." The last one organized is the Philadelphia Neurological Society, its object being to aid and increase the study and investigation of knowldge in all its branches. Dr. S. Weir Mitchell was chosen President, and Drs. C. K. Mills and T. N. Kerlin Vice-Presidents.

Several weeks ago a society termed the Philadelphia Clinical Society was started in the upper portion of the city.

At the recent meeting for election of officers to the County Society, the "woman question" again came up, and the lady applicants were defeated once more; still, their champions have not lost the hope that, sooner or later, they will succeed. Judging from the appearances there is no doubt but that the day when female physicians will be members of our society is not far distant. At each election the number voting against them decreases, and now many men of great influence in the Society, who used to be against the movement, are in favor of it.

The matter will be brought up at each election, until success crowns their efforts. As the State Medical Society meets in this city next May, arrangements are being made that will make this one of the most profitable and pleasant meetings held for some time. The papers will be subjected to examination, and only those most worthy will be presented. This will leave ample time for discussion of each paper and communication presented.

I am unable to give you any very exact information concerning the number of new medical men our colleges will turn out at the approaching commencements, but you need have no fear that the supply will run short.

The Alumni Association of Jefferson College gave a reception in honor of Professor Parvin. The entertainment was given at the St. George Hotel, being well worthy the efforts of that house in justifying the reputation for good things.

A large number of our prominent medical men were present as was also the Mayor of the city. Professor Parvin has become quite popular here in the profession, and has made many friends.

Dr. Morris Longstreth has been invited to deliver a course of lectures at the Lowell Institute, Boston, commencing March 11th, continuing Tuesdays and Fridays for three weeks.

Dr. Longstreth has chosen for his subject "The Germ Theory of Disease," and having given the matter much study and investigation, his lectures will be of interest and full of valuable information. He is not a supporter of the present statement of the Germ Theory; and will take ground in opposition to it.

It is said that Provost Pepper will be shortly made Professor of Theory and Practice in the University, vice Dr. Alfred Stille, who has resigned.

M. S. French, M.D.

MEDICAL LEGISLATION.

Editor Lancet and Clinic:

The "Scott Bill," which has for one of its objects the creating or establishment of a "Board of Medical Examiners and Licensers," the duties of said "Board" to be for the examination and licensing of graduates in medicine in the State of Ohio, which "bill" should be so amended, "requiring all graduates of medicine within the last eight years to go before the Board for examination and licensure." There has been *so much written* in our journals in the last few years in regard to the "*illiteracy*" of many of the graduates who have been plumed with the honorable degree of M.D., it has caused a "stigma" to be cast upon some of our schools and a *reproach* to the "profession," until it has spoken in *thunder tones, demanding a higher standard of education.*

If these statements, then, be not true, our "medical colleges" should demand the passage and adoption of this bill for their own vindication; and if there is sufficient testimony to prove the correctness of these allegations, why, not only the profession but the people should urge the passage and adoption of this bill; for human life is too precious to be taken charge of, in time of affliction, to be treated by the children of "ideal," instead of "real" medical colleges.

Some with whom I have conversed on the subject, are of the opinion that if *all* our "medical colleges" were to close their doors for a period of five years, and then, at the expiration of that time, not more than two regular medical colleges in each State be again permitted to open their doors with a three years' graded course, requiring a stipulated amount of endowment, and the tuition to be uniform throughout all our colleges, would cause such a concentration of talent and capital that would remove therefrom *every appearance* of literary shoddy.

I. W. Chisholm, M.D.
New Concord, Ohio.

Society Reports.

NEW YORK COUNTY MEDICAL ASSOCIATION.

Stated Meeting, January 14, 1884.

The President, William Detmold, M.D., in the Chair.

Dr. Austin Flint read the following paper on

The Pathological and Practical Relations of the Doctrine of the Bacillus Tuberculosis.

The literature of the last quarter of a century, so far as it relates to pulmonary phthisis, offers a striking example of the mutability of medical opinions, and an instructive lesson for truth-seekers in the field of medicine. About twenty-five years ago, Virchow enunciated the dogma that the name tubercle should be restricted in its application to neoplasms known as miliary tubercles, or the granulations of Boyle; the phthisical products distinguished as infiltrated, crude, yellow, or cheesy tubercle having no claim to be considered tuberculous. This dogma rested on an exclusively histological basis. It was accepted by many French and British, as well as by most of the German pathologists, and largely in this country. As a consequence, pulmonary phthisis and pulmonary tuberculosis were regarded as essentially distinct affections.

Phthisis, being relegated among the purely inflammatory diseases, received a variety of new names, such as broncho-pneumonia, chronic catarrhal pneumonia, cheesy pneumonia, lobular pneumonia, etc. That phthisis and true tubercles were associated, in a certain proportion of cases, was admitted, and, reversing the teaching of Laennec as regards their relationship, the tubercles, in these cases, were regarded as occurring, not anterior, but secondary, to the phthisical products, being attributed to an auto-infection either from phthisical or degenerating products of some kind, somewhat within the body. Reasoning from these premises, in opposition to the results of the clinical studies of Laennec, Louis, and others, the development of phthisis was attributed often to an extension of inflammation from the bronchial tubes, and, not infrequently to an antecedent lobar pneumonia. A peculiar predisposition to phthisis, as expressed by the terms diathesis, dyscrasia, and cachexia, was repudiated. A susceptibility to morbific agents of all kinds was alone admitted, under the name vulnerability. As practical consequences, patients affected with phthisis were treated by measures addressed to chronic inflammatory affections. Local bloodletting, counter-irritation, confinement within doors, mercurialization, and restricted diet—measures heretofore in vogue, which had become obsolete because experience had shown them to be hurtful—entered again, to a greater or less extent, into the practice of physicians in cases of phthisis.

These pathological, etiological, and therapeutical views, so widely at variance with those which had been established by the clinical studies of Laennec, Louis, and others, had their origin in the microscopical observations which led Virchow to conclude that an essential distinction exists, as regards the anatomical elements, between the ordinary phthisical products and the bodies to which he restricted the name tubercles. (1) During the greater part of the last quarter of a century, a large share of medical literature, in different countries, has been devoted to investigations and discussions either relating to, or growing out of, the dogma enunciated by Virchow. As a result of these investigations and discuscussions, the dogma and, of course, all deductions therefrom were at length shown to be erroneous.

It required, thus, nearly twenty-five years to emerge from errors due to a false conclusion from microscopical appearances observed in a pathological laboratory. The errors were not merely of pathological interest, but they influenced unfavorably the treatment of patients affected with phthisis. What is the lesson to be learned from this retrospect? It teaches, of course, the evils of hasty or rash pathological deductions; but will go further and say that it teaches the importance of the clinical study of diseases as a safeguard against errors arising from exclusive attention to histological researches. Laennec, Louis, and they who followed in their footsteps, were painstaking, careful, and conscientious clinical observers. The fruits of their studies are as valuable to-day as they have been in the past, and they will remain so as long as the diseases which they studied and the human constitution continue unchanged.

In speaking thus of the importance of clinical medicine, I do not undervalue pathological researches. Of the importance of these, the subject of my paper offers a brilliant example.

A notable event in the literature of phthisis was the announcement by Villemin, in 1865, of the inoculability of tubercle. The accuracy of Villemin's experimental observations was speedily established by other observers. But the conclusion that inoculability proved the existence of a specific virus was opposed by experiments which appeared to show that matter evidently not tuberculous, as well as putrescent organic substances, and those even which could have only a mechanical effect, were capable of inducing tuberculous disease in certain animals by inoculation.[1] These apparent obstacles in the way of the recognition of a specific virus had been, in a great measure, if not entirely, removed when the discovery of a particular micro-organism—the bacillus tuberculosis—was announced by Koch in 1882. (1) The

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1 In a recent discussion at a meeting of the Berlin Medical Society, Virchow proposed to distinguish miliary tubercles and caseous hepatization as "bacilliary affections." There does not seem to be any intrinsic impropriety in this name, but the unfortunate consequences of his former definition of tubercle do not afford encouragement for another attempt in the way of nomenclature.

1 Of those who claimed that tuberculous disease in certain animals may be artificially produced by inoculation with non-tuberculous substances, Cohnheim and Wilson Fox were the most prominent and influential. As showing that, in the minds of these distinguished patho-

latter discovery may be said to be a sequel of that by Villemin.

Two things are remarkable in view of the announcement of Koch's discovery. It is remarkable that it should have at once excited so much interest in different countries. This has rarely been the case with past discoveries of like novelty as well as importance. It is remarkable that they who have already accepted the discovery are among those who, as practical histologists, are most competent either to confirm or disprove it.

The statement of the fact that a peculiar microscopism, to which Koch gave the name bacillus tuberculosis, was found by him in tuberculous products, by no means expresses the length and breadth of the discovery. The fact, however, lies at the foundation of a new doctrine—a doctrine apparently in conflict with well-founded pathological truths, and of great practical importance.

Before considering its pathological and practical relations, let us inqure of what does this doctrine consist, and on what does its validity rest? Is the bacillus tuberculosis a veritable micro-organism?

The affirmative answer to this question must be based on the testimony of competent and trustworthy microscopists, and there is almost entire unanimity among these in the conclusion that the bacillus tuberculosis is a veritable micro-organism. Of this, positive proof is the reproduction of the organism by culture outside of the body.

Is the bacillus tuberculosis constantly found in morbid products, which, irrespective of its presence, are known to be tuberculous?

The affirmative answer to this question is sustained by a very general agreement among competent and trustworthy microscopists.

Is the bacillus tuberculosis found in morbid products which otherwise have no claim to be recognized as tuberculous?

So far as I know, an affirmative answer to this question is *not* sustained by the testimony of competent and trustworthy microscopists.

From these data it may logically be concluded that the bacillus tuberculosis is a peculiar parasitic micro-organism which is characteristic of tubercle. But the doctrine goes further. The nature and extent of the pathological connection of the bacillus with tuberculous disease are to be inquired into.

Is the bacillus tuberculosis the causative agent in the development of tuberculous disease?

This is an all-important question as regards the pathological and practical relations of the doctrine. Koch's discovery embraced the induction of tuberculous disease in certain animals by inoculation with the bacillus. In order for inoculability to constitute proof that the organism, *per se*, is the causative agent in the experiments, it is evident that the bacillus must be devoid of any morbific matter which might be adherent to it. This essential requirement is secured by repeated cultivations in a culture-medium of the body. Koch found that the organism, after it had been carried through several generations, was capable, by inoculation, of inducing tuberculous disease. Assuming accuracy of the observations, this result is demonstrative proof that the bacillus, at least in the experiments on certain animals, is the causative agent in the development of tuberculous disease. The accuracy of Koch's experimental observations in this regard has not been disproved. Reasoning from analogy, and still assuming the correctness of the data, it is a logical conclusion that pulmonary phthisis, in the human subject, is caused by the presence of this parasitic organism.

This completes the doctrine of the bacillus tuberculosis. It follows therefrom that pulmonary phthisis is an infectious disease, using this term infectious in the sense in which it is at present used by most medical writers, namely, as denoting disease dependent on special causative agents, which, under favorable circumstances, are capable of multiplication indefinitely either within or outside of the body. The multiplication of the special causative agent, the bacillus. The causative agent, thus, is a *contagium vivum.* If the validity of the doctrine be acknowledged, it must be admitted to be vastly improbable that phthisis is ever developed without the presence of the parasite. It may be laid down as a law in etiology, that the agency of special causes is essential in the development of all infectious diseases, and there is no reason for supposing that phthisis is an

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logists, the desire for truth is paramount to the pride of opinion, it is pleasant to state that Cohnheim, prior to Koch's discovery, and Wilson Fox, quite recently, have publicly made avowal that they were mistaken.

exception to this law. Another conclusion must be admitted, namely, that pulmonary phthisis is primarily a local affection. The initial morbid processes take place in the lungs, being due to the presence of the parasite. The bacilli, doubtless, inhaled with the inspired breath, become colonized within the pulmonary alveoli. They give rise to tuberculization in the situation which they inhabit. The local affection extends in consequence of their invasion, successively, to different parts of the pulmonary organs, and the development of the disease in other situations depends on their migrations.

We are now to consider an apparent antagonism between the doctrine of the bacillus tuberculosis and certain facts derived from the clinical study of pulmonary phthisis. In view of such an antagonism, what are we to do as seekers after truth? Are we to repudiate the doctrine on one hand, or the clinical facts on the other hand? We are to do neither the one nor the other. We are to satisfy ourselves of the truth of the doctrine, and that the clinical facts are well grounded; then, the doctrine and the facts are to be reconciled. If the doctrine be true and the facts well grounded, there must be a way of reconciliation. In reality, the antagonism is apparent only, not actual, as I shall endeavor to show. The antagonism relates especially to the existence of a tuberculous diathesis, to the well-established operation of causative agencies other than a contagium, and to a lack of clinical evidence of communicability.

Pulmonary phthisis is eminently a diathetic disease. The diathesis, that is, the predisposition, is evidently in some persons innate. How otherwise are to be explained the instances in which many children in certain families become victims of the disease—instances which are too many to be accounted for on the ground of accidental coincidence? No one who has given any attention to the statistics of this disease, can doubt that heredity is involved in the causation. That the disease is developed much oftener in some climates than in others, is certain, and it is equally certain that, irrespective of climate, insalubrious situations, a humid soil, confinement in illy-ventilated rooms, insufficient alimentation, and mental depression, exert a causative influence. No fact in medicine is better established than that age enters largely into the causation of pulmonary phthisis.

How are these facts to be reconciled with the doctrine which teaches that the efficient causative agent in the development of this disease is a contagium? And, as regards communicability, statistics have failed to prove that this disease is contagious. It is true that isolated instances seem to point to its communicability, but the analytical study of large collections of recorded cases seem to furnish evidence against, rather than for, contagion. Of those who are brought into close proximity to phthisical patients in hospitals or elsewhere, how small is the proportion who become affected with the disease! At the time of Koch's discovery, there were a few physicians who believed that phthisis might be communicated; but the great majority of the members of the medical profession had no faith in its contagiousness. How are these facts to be reconciled with the doctrine which teaches that phthisis is never developed without the presence of a contagium vivum?

The special morbific agents which give rise to infectious diseases require for the efficiency of their causative action certain special concurrent, coöperating conditions within the body. This requirement is greater in some than in other diseases, but the statement is probably applicable, to a greater or less extent, to all. The special agent is an essential factor; and another, not less essential, is the existence of the requisite concurrent, coöperating conditions. The nature of these conditions is unknown, but the fact of the necessity for their existence in the causation of diseases is as certain as if they were known. We may embrace these conditions under the name predisposition. If the special causative agent be a micro-organism, it is customary to say that, like certain plants, it needs for its growth and multiplication certain peculiarities of soil. The term predisposition embraces these peculiarities. The two factors in the causation, namely, the special causative agent and the concurrent, coöperating conditions embraced under the name predisposition, in their application to yellow fever, were compared by the late Dr. Barton, of New Orleans, to the two blades of a pair of scissors; their efficiency depends on their being joined together; separated, each is powerless.

The predisposition to pulmonary phthisis involves all causes exclusive of the special causative agent—the bacillus. An innate tendency, heredity, and the other causes already referred to, exert their influence by inducing or promoting the predisposition to the disease. The predisposition is the diathesis. It may be either congenital or acquired. It may exist and afterward disappear. It may probably be removed by measures employed for that end. This last statement is of great practical importance, and will be referred to in another connection. If the predisposition be wanting, persons are insusceptible to the special cause of pulmonary phthisis. However large the number of bacilli inhaled, they are powerless, like the separated blades of a pair of scissors. If the predisposition exist, phthisis will be developed, unless the inhalation of bacilli can be avoided; and this, in most parts of the world, is impossible, so long as the disease is as prevalent as it now is. The susceptibility dependent on the predisposition doubtless varies much in degree in different persons, and at different times in the same person. The danger of contracting the disease, as it is reasonable to suppose, is proportionate to the degree of the susceptibility. It is also a rational supposition that the danger is, in a measure, proportionate to the degree of exposure to the contagion.

The views just presented are not peculiar in their application to tuberculous disease. The susceptibility to this disease, as shown by the results of inoculation, are far from being the same in all animals. It is great, for example, in rabbits, and comparatively slight in dogs. Some persons are insusceptible to the special causes of certain diseases, small-pox included. To certain of the contagious diseases the susceptibility is extinguished if the disease be once experienced. On the other hand, the occurrence of certain diseases (for example, relapsing fever), does not in the least lessen the susceptibility to their causes. Persons may be exposed many times to contagia or other special causes with impunity, the diseases becoming at length developed on exposure. In short, I have applied to pulmonary phthisis well-known truths as applied to other infectious diseases. These truths are novel, and may seem startling in their application to pulmonary phthisis, because, up to the present time, few physicians have been accustomed to look upon this disease as belonging among the infectious diseases.

I proceed to consider briefly the doctrine of the bacillus tuberculosis in its practical relations. In this division of the subject, we are to inquire into the relations of the doctrine to the diagnosis, prognosis, and treatment of pulmonary phthisis.

Of the importance of the bacilli in diagnosis, I can speak from personal knowledge. For several months I have obtained the results of examinations of sputa for bacilli in a large proportion of the cases which have come under my observation in hospital and in private practice. Not claiming to be a microscopist, it is proper to state that these examinations have been made either by my colleague, Prof. William H. Welch, or by my clinical assistant, Dr. William H. Flint, or by Dr. H. M. Biggs, Senior Assistant Physician of the Third Medical Division of Bellevue Hospital. The results taken in connection with the histories, the symptoms, and the physical signs have satisfied me that the bacilli in the sputa may be relied upon as proof of the existence of tuberculous disease. There is abundant, competent testimony to the correctness of this statement. I am led to believe that, if repeated examinations, made with sufficient care, show the presence of the parasite, the diagnosis of phthisis is positive, and, on the other hand, it, on repeated and careful examinations, bacilli be not found, phthisis may, with much probability, be excluded. I return to predict that the time will soon come when, in order to corroborate the diagnosis, and as the hinge on which the question of diagnosis will turn in certain cases, microscopical examinations of sputa will be considered to be as much a matter of course as examinations of urine for evidences of renal disease. In cases of suspected phthisis, when the diagnosis is not rendered clear by physical signs, the presence or the absence of bacilli in the sputa will serve to determine either that the disease exists, or that it may be excluded. I could cite many cases which have been under my observation, in illustration of the value of this criterion of pulmonary phthisis.

So far as my experience goes, an abundance of bacilli in the sputa of phthisical patients is evidence of active progress of the disease, and *vice versa*. I am prepared to believe that in the number of bacilli found on repeated examinations, we have important data for forming a judgment in relation to prognosis. I have been much interested in the study of some cases of lesions incident to advanced phthisis, as shown by physical signs denoting solidification of cavities, in which bacilli in the sputa were few or wanting. The results of the microscopical examinations of the sputa in these cases corresponded with the history and symptoms in showing that the tuberculous disease had ceased, and that the patients suffered only from the lesions resulting therefrom. The bearing of this fact on prognosis is obvious. We may hope for the recovery, or, at least, an indefinite prolongation of life in cases of phthisis in which the lungs are considerably damaged, provided the tuberculous processes of disease have ceased. I have enunciated in different publications the conclusion based on my own clinical studies, that pulmonary phthisis is a self-limited disease. The parasitic doctrine is in full accord with this conclusion. After a series of successive generations, the race of bacilli becomes extinct, probably because the local conditions for further multiplication no longer exist. In this regard, the tuberculous affection resembles other infectious diseases.

Lastly, the relations of the doctrine of the bacillus tuberculosis to the prevention and treatment of pulmonary phthisis, are the most important of the practical aspects of the doctrine.

The prevention of the disease can be effected by the accomplishment of either one of two objects, namely: First, avoidance of all exposure to the contagium; and, secondly, the removal of the concurrent, coöperating conditions in which consists the diathesis, the predisposition, or the susceptibility.

The first of these objects is not easily accomplished. Wherever there are cases of phthisis, the respired atmosphere may contain bacilli. We may be at this moment inhaling them, if, among this audience, there are persons affected with phthisis. If there be a spot on the globe where there is not, and has never been, a case of phthisis, in that spot a person—no matter how great may be the predisposition—is safe. But where, among the places in which persons may wish to live, is such a spot to be found? It is evident that prevention by this method can not be reduced to a degree approaching to certainty. Perhaps as safe a situation as any, exclusive of uninhabited regions, is on shipboard, provided it is certain that all others on board are free from phthisis. But we can not enjoin on healthy persons to spend their lives at sea, especially inasmuch as we have no positive criteria of a tuberculous predisposition prior to the development of phthisis.

Preventive measures, moreover, relating to this object are not to be ignored. Assuming the existence of a tuberculous predisposition, there may be more or less exposure to the contagium, and the disease be not developed, the bacilli failing to become colonized. Exposure to the contagia of other diseases, or to infectious matter multiplied outside of the body, is by no means always followed by infection. Danger of infection is, of course, other things being equal, proportionate to the degree and duration of exposure. Hence, preventive measures, in this direction, are to be employed as far as practicable. Healthy persons should not occupy the same bed with phthisical patients, nor the same room at night, unless the dictates of duty, humanity, or affection require that the risk of infection should be incurred. Sanitaria for phthisical patients, and situations considered as favorable for those patients, should be avoided by those who are not tuberculous, in their choice of health resorts. The disinfection of sputa from phthisical patients by some simple but effective means is to be recommended. The freest possible ventilation of rooms or hospital wards occupied by phthisical patients should be secured. It is probable that not a little can be accomplished, in the way of prevention, by proper attention to these points.

The prevention of phthisis by the removal of the predisposition is a more available method. Here we labor under the difficulty of not being able to recognize with positiveness, by any criteria as yet ascertained, the existence of the tuberculous predisposition. Its existence should certainly be suspected if brothers or sisters have died with phthisis, and whenever there is reason to suppose that the predisposition may be inherited. Especially are preventive measures in this direction to be employed during the period of life when the disease is most apt to be developed, namely, from twenty to thirty years of age. Evidently, if preventive measures be practicable, it is far better to be oversuspicious of the tuberculous predisposition than to err in not arousing suspicion sufficiently.

Ignorance of the particular conditions which constitute the predisposition to phthisis, is to be confessed, and we must, therefore, be guided by the lessons of experience and of common sense in the endeavors to remove this predisposition. These lessons teach that a dry, salubrious, uniform climate, the atmosphere rarefied by altitude, ample alimentation, life in the open air, a fair proportion of muscular exercise, protection of the surface of the body from cold, and cheerful spirits are measures to be relied upon. for this object. The measures, in other words, are those which tend to produce the highest grade of constitutional vigor. It is certain that the prevalence of phthisis would be greatly diminished by these measures; and if every member of the human family could be made to enjoy in the utmost degree the blessings of hygiene, who knows but that, in the course of time, the complete extinction of this disease might be included among triumphs of preventive medicine?

The treatment for the arrest of pulmonary phthisis has reference to two objects: First, the destruction of the parasite; and, second, the removal of the conditions on which it depends for its existence.

Although not quite two years have passed since the announcement of Koch's discovery, many experimental observations have been made with a view to discover an effectual parasiticide which will destroy the bacilli by direct contact, either by means of inhalation or by introduction into the circulatory system. Various substances which are known to be destructive to micro-organisms outside of the body, have been employed, such as corrosive sublimate, iodoform, bromine, arsenious acid, and salicylate of soda. Thus far they have proved ineffectual. (1)

There are three difficulties in the way of success by means of inhalation. The first is to discover the particular parasiticide. This difficulty applies alike to both methods of effecting the destruction of the parasite by direct contact. Of the different infectious diseases supposed to depend on the presence of micro-organisms, each has its own parasiticide. Mercury, for example, is an effective agent in cases of syphilis, but it has no effect upon malarial disease; and the specific agent for the latter is without effect in syphilis. For most of the infectious diseases, the specific curative agents remain to be ascertained. The second difficulty in the way of the direct destruction of the parasite by means of inhalation is, that the agent for its destruction, inhaled in the form of either an impalpable powder, a vapor, or a gas, is not likely to reach the colonies of bacilli in sufficient quantity to effect the object. The third difficulty is, that a parasiticide brought into direct contact with the bacilli by means of inhalation, in sufficient quantity to destroy them, is likely to injure the tissues, or, by passing into the blood, to induce toxæmia.

The two last-named difficulties do not apply to the introduction of parasiticides into the blood. It remains to be ascertained by experimental observations which, as yet, are but commenced, whether a parasiticide can be found capable of effecting the first object in the treatment, namely, the direct destruction of the parasite, by means of either its inhalation or its introduction into the circulation. That this object may be effected, is by no means beyond the limits of possibility, nor, perhaps, of probability. For this we must wait patiently. Meanwhile, the second object in the treatment, namely, the removal of the conditions on which the parasite depends for its existence, is not to be overlooked, nor undervalued.

Let it be borne in mind that the continuance, as well as the origin, of pulmonary phthisis, depends on two factors—the presence of bacilli and the concurrent, cooperating conditions. The disease will cease to progress whenever either factor ceases to exist. Without the conditions just named, the generation of bacilli must end. Without bacilli there can be no tuberculosis. The bacilli are destroyed by removing the conditions on which their existence depends, as surely as by an effective parasiticide. Applying, in the plural number, the language of Shylock, "you take their lives when you do take away the means by which they live." The measures for the removal of these conditions are precisely those pertaining to hygiene, which enter into the preventive treatment, and they need not be here recapitulated.

In conclusion, I will summarize an estimate of the pathological and practical relations of the doctrine of the bacillus tuber-

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[1] MM. Parrot and Martin have reported in the *Revue de Médecine* (Nos. 9 and 10, 1883), the results of experiments with a view to discover a parasiticide which will be effectual without injuring the tissues. They found that salicylic acid, sulphate of quinine, corrosive sublimate, carbolic acid, creasote, bromine water, and peroxide of hydrogen, in quantities suitable for administration, have no influence on the bacillus. *Vide* the *Medical News*, December 22, 1883.

culosis, at the present moment, by quoting the concluding paragraph of another article:

"The researches of Koch and others have extended our knowledge of the pathology and etiology of pulmonary phthisis. Their practical bearings on diagnosis and prognosis are important, and they have opened up inquiries in relation to prophylaxis which may lead to useful results. But, as regards hygienic and medicinal agencies in the treatment of the disease, we have thus far acquired nothing beyond the rational views and the lessons of experience by which physicians were guided prior to the discovery of the bacillus tuberculosis. These views and lessons remain unaffected by the discovery. In the adaptation to individual cases of phthisis, of remedies, diet, regimen, and climatic changes, we are to continue in the endeavor to judge by the light of reason and experience; and it is not less a duty now than heretofore to accumulate facts which have practical bearings, irrespective of any doctrine."(1)

DISCUSSION.

Dr. William H. Welch in opening the discussion said that, personally, he was fully in accord with the views expressed in the paper. He had only one suggestion to make, and that was, that negative testimony in this case was of but little value as compared with positive. The fact that no bacilli could be found in any given case, especially if only one examination for their presence was made, did not prove that tuberculosis did not exist; while, on the other hand, if bacilli were found, it was proof positive of the existence of the disease. Repeated examinations, performed with great care, should be made when the early stages of tuberculosis were suspected, and great caution was to be observed in drawing conclusions from the apparent absence of the bacillus. The finding of the bacillus, he believed, established the diagnosis with absolute certainty.

Dr. E. G. Janeway stated that he wished to corroborate what Dr. Welch had said. He was a firm believer in the existence of the bacillus and in the contagiousness of phythisis. Long before the brilliant discovery of Koch he had had his mind directed towards the infectiousness of the disease, and the latter had offered a practical solution of the matter which was entirely satisfactory to him. He had seen tuberculosis in certain families where there was nothing to explain its presence except the idea of contagion. Where there was no hereditary tendency or congenital taint whatever, he had known three or four members of a family to succumb to the disease. The lack of belief in the contagiousness of phthisis, he thought, led many physicians to neglect making proper inquiry as to whether patients had not been exposed to infection. He then proceeded to relate a case which he said he had already published, but which was of so striking a character that he would venture to repeat it. It was that of a young man suffering from pulmonary tuberculosis, who had lost three dogs in succession with all the symptoms of the disease; the animals having been in good health at the time that he purchased them. It was ascertained that he was in the habit of taking the dogs to bed with him (he owned but one at a time), and that they slept in such a position as to cause them continually to inhale his breath. Dr. Janeway remarked that he did not know of any case of the disease among dogs in which more plausible proof of its contagiousness was afforded. Physicians from different parts of the country had frequently mentioned cases to him which seemed to point strongly to a specific contagion. One, as he recalled, had told him that he had known of twenty-five members of the branches of a single family being attacked with tuberculosis.

Another point of importance was, that in members of a family in which it had appeared, who were themselves supposed to be free from it, the disease sometimes existed in a latent form and made very considerable progress before it was detected. Thus, in a family in which the mother and a sister and brother had died from phthisis, he was called to see a young woman who was suffering from hæmoptysis, and on making an examination of the chest of another sister, who had never complained of any trouble, he found a more marked tubercular condition than in the one who had had the hemorrhage.

He would allude to one other point. He had been at the post-mortem examination of a patient in whose lungs was found a considerable amount of cheesy degeneration. Three and a half years ago he had hemorrhage from the lungs, and the physician who attended him at that time found disease at the apex of the left lung; a fact

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1 *Vide* Appendix to A Treatise on the Principles and Practice of Medicine, by the writer. Fifth edition, 1883.

which was afterwards entirely forgotten. In another case, where the patient died from gall-stone, the evidences of past tuberculosis were found, though it had been eighteen years since he had suffered from cough and expectoration.

Dr. George Peabody remarked that he also was fully in accord with all that had been said on the subject, and that he could only add that some corroborative evidence was afforded by the treatment devised by Kurchman, of Germany, several years ago, viz.: The use of antiseptic masks, through which the patient breathed in cases in which the disease was largely situated in the larynx. The plan he had himself tried in certain hospital patients, who had expressed themselves as greatly relieved thereby, and who had persevered in wearing the masks, notwithstanding the weather was then quite hot, on account of the relief afforded by them. In some instances the cough was markedly diminished, in some the expectoration, and in some the night-sweats, while in still others all three symptoms were benefited.

Dr. Nelson related what he thought was a significant case, in the present state of the subject of tuberculosis. A gentleman who was troubled with cough and expectoration married a lady who was at the time in the most perfect health, but who not long afterwards was attacked with phthisis ,and died, the husband having recovered.

Another member said that in 1868 he removed sixteen ounces of pus from the pleura of a young lady twenty-three years of age, and hermetically sealed the external wound. A few months afterward she died of tuberculosis. The remaining members of the family, which consisted of the father, mother, a sister, and two brothers, were at that time in good health; but in less than two years the entire family had been swept away by phthisis. Within a month after the death of the young lady mentioned, her sister became affected and soon died; and before a year had elapsed both the mother and father were dead. The elder brother was the next victim, and finally the younger succumbed. Before the death of the first daughter the family removed to a more salubrious location, immediately adjoining Central Park, and from the first they were surrounded by the best hygienic conditions. This striking history he had also reported to the Academy of Medicine.—*Medical News*.

THE CINCINNATI
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A Weekly Journal of
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Issued every Saturday.

Terms, $3.50 per annum in advance.

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Editor and Publisher,
281 W. 7th Street, Cincinnati, Ohio.

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Cincinnati, February 16, 1884.

The Week.

Quarantine Fees.—The Supreme Court of the State of Louisiana has decided that the State law requiring all vessels touching at New Orleans to pay certain quarantine fees is just and that it does not infringe on the power of Congress to regulate commerce.

The suit was entered by the "Morgan Company" to perpetually enjoin the collection of the fees now demanded by the Resident Physician at the Mississippi Quarantine Station from all vessels entering the port of New Orleans. The fees for inspection and granting certificates are from $5.00 to $30.00, the amount regulated by the size of the vessel. An additional fee of $20.00 or $25.00 may be charged in case it is deemed necessary to disinfect and fumigate the vessel.

The "Morgan Company" claimed that this was contrary to the spirit of the Constitution of the United States, as evinced in Art. I., Sec. 8, Paragraph 3, and Sec. 10, Paragraph 3; and that there was no equivalent benefit rendered the vessel, that the services were forced upon the Company, and that the services were for the benefit of the city and State and not for the vessel. The following very just decision is quoted in full:

It is apparent from the face of the laws here attacked that the fees and charges complained of are demanded as compensation for labor performed, expenses incurred and services rendered directly in connection with the vessels, the necessity for which arises solely from the fact that such vessels, in the exercise of an undoubted right, yet voluntarily and in pursuit of their own interests, choose to seek the port of New Orleans, well knowing that they cannot enter said port without first being inspected, and, if necessary, purified in conformity with laws to that extent unquestionably valid. Can it be said that the rendition of these services, by virtue of which alone the vessel is enabled lawfully, to proceed to her destined port, is not a service to the vessel.

It is said that it cannot be considered as a service, because the vessel does not regard it as such, but rather as a burden, and because she does not voluntarily seek or avail herself of it. As to the first point, the question would seem to be, not whether the vessel regards it as a service, but whether it is a service and whether she ought to regard it as such. It seems the plainest development of the primal duty, *sic utere tuo, ut alterum non leadere*, that a vessel should seek and desire the performance of services the object of which is to prevent the chance of her spreading disease and pestilence amongst large populations. She is under the plain obligation, moral as well as legal, to do everything to avoid such risk, and the service which enables her to perform this obligation would seem to be a service to her.

As to the second point, that the services are forced and not voluntary, the reliance placed upon the decisions of the Supreme Court of the United States in the wharfage and portwarden cases seems not well founded. In those cases there was no legal duty imposed on vessels to land at the wharves or to receive the services of the portwardens. They had the perfect right to decline these benefits and services and the court properly held that a State law exacting contributions for them, whether used or not, was unconstitutional. But had it been the legal duty of vessels to land at a particular place in the port of New Orleans and had the city provided expensive wharves at such places, is it supposed that she would not have the right to exact compensation for the facilities thus afforded, although vessels landing at the port would have no option as to accepting the use of them.

Finally, it is claimed that the services rendered under these quarantine regulations are for the benefit of the people of the city and State and not for that of the vessel. No doubt that is true. It is equally true that the object of the city in building wharves was to benefit its own people, trade and commerce. We deem it unnecessary to consider more at length the objections which have been forcibly urged against the theory that the services in question are rendered to the vessel in such a manner as to justify the exaction of compensation therefor. What we have said sufficiently expresses our views on the subject, and while the question is not free from difficulty, even to our own minds, we are confirmed in our course by the reflection that it leaves the avenue open for correction of any error which we may commit by appeal to the Supreme Court of the United States, whereas, if we should err in the opposite direction, the defendants would not be entitled to that remedy.

The broad proposition of plaintiff, that in the exercise of the right to establish quarantine systems, the States are bound to bear all the expenses thereof, and cannot throw the burden, in any manner, or to any extent, upon commerce, has certainly not yet received the indorsement of the Supreme Court of the United States.

PHYSICIANS' FEES.—Quite a discussion is now in progress in London over the question of fees. It appears that even in London the medical gentlemen of long practice and established reputation do not always charge a fee in proportion to the dignity of their position. The consequence is that the junior members of the profession claim that they must either make their charges ridiculously small or do no business as the public would prefer to employ the physician of large reputation at the same price. The fault seems to lie very much there as here. Our profession does not place a sufficiently high estimate on its services. Too many reputable physicians charge ridiculously low fees. With such low fees an enormous amount of work must be done to realize a living income. With us, if a physician charge a good round fee it is difficult for him to get the support of his professional brethren in collecting it. Our profession might very well learn a lesson from our legal brethren. Compare, for example, the fees granted the physicians in President Garfield's case, and lawyers fees in the Star Route case. In each example the case was lost. In each high medical and legal talent was employed. The physician's bills were cut down to a modicum of the fee demanded. The lawyer's bills, more than double what the physicians demanded, were paid in full. The physicians all over the country united in crying out against the exorbitant medical charges. The lawyers all thought that the fees demanded by their colleagues were no more than just.

If we desire to maintain the dignity of our profession we must place a fair estimate upon our professional services and we must stop denouncing as exorbitant the fees which are charged by any other reputable practitioner.

FIREPLACE VENTILATION.—In the February *Sanitarian* appears an article on "Malaria or Bad Air," by W. C. Van Bibber, M.D., in which he seems to teach that the fireplace is the best ventilator we can have for our houses.

It is doubtless true that the houses of our forefathers which were heated by immense fireplaces were well ventilated. But the bad air could easily find a means of exit through the chinks of the walls, which same chinks furnished an abundant means for a plentiful supply of fresh air.

That the present fireplace or coal grate furnishes ventilation to a room, is, in our opinion, a statement full of error. In the first place, what is the chief source of contamination of the air of an inhabited chamber? Everyone knows that it is the exhaled excretions in the form of vapor, and that this animal vapor is lighter than air and rises. This leaves the purest air in the room near the floor and the foulest near the ceiling. The fireplace then draws from the chamber the best air and leaves the worst to be still further polluted. The fresh air which is forced in to supply the place of that removed by the fireplace will be colder than the air within and will consequently sink to the bottom and be removed by the fireplace without having contributed much to the purification of the air of the chamber. For the ventilation of a room to be good the impure air should be removed from above and the fresh air supply should be admitted from below and in such quantities as to maintain the purity of the air in the room without creating a perceptible draft.

Is it not time for the popular idea that the fireplace is a good ventilator to give way to the simple fact that it is about the worst ventilator we have?

MIAMI MEDICAL COLLEGE ALUMNI ASSOCIATION.—The annual reunion of the Alumni Association of the Miami Medical College will be held in the College Building, Thursday, March 5th, 1884, at 3 p.m. Addresses by the President, and Dr. John G. Smalley of the Graduating Class.

The members are cordially invited to be present. DANIEL MILLIKIN, M.D., Pres't.

WM. H. FALLS, M.D., Secretary,
No. 70 West Seventh Street.

ST. LOUIS MEDICAL REVIEW.— Dr. D. C. Gamble retires as St. Louis editor of the *Weekly Medical Review*. Dr. Julius Wise, personally well known to many of our readers, is his successor.

Dr. E. M. Nelson, editor of the *St. Louis Courier of Medicine*, and Dr. Wise received their medical education in Cincinnati. Their many friends in the Ohio Valley will congratulate them on their professional success and the highly honorable position they have attained as dispensors of literature to the profession at large.

SOME good has of late been done in Chicago in exposing some of those who, advertising special knowledge and experience in certain affections associated with the genitals, have been merely exacting money from the unwary. A Doctor Williams, better known as Dr. Lucas, has been imprisoned and fined for circulating obscene literature.—*Medical Review.*

There is ample opportunity for some wholesome work of this sort in Cincinnati. Our city is more than usually flooded with this sort of business. Will our Legislature give us a State Board of Health with power to act?

ACADEMY OF MEDICINE.—Next Monday, February 18th, Drs. Whittaker and Judkins will each report a case of cancer, respectively, carcinoma mammæ.

Arrangements have been made for lighting the Hall with oil. A general attendance of the members is desired.

Selections.

MEDICINE.

HYDATIDS OF THE BRAIN.—Dr. Steffen (*Jahrbuch für Kinderheilk.*, Band xx., Heft 1) has made a collection of all the cases he has found recorded, and has contributed one from his own practice. This occurred in a girl, ten years of age, who was healthy until within a year of her admission to the hospital. Somewhat remarkably, however, she menstruated at irregular intervals from the age of five years to within six months of her death. A year before her admission she fell, and immediately afterwards vomited and showed signs of cerebral disturbance. The vomiting returned at intervals, and other symptoms declared themselves—such as severe headaches, numbness of various extremities, and muscular spasms. Four months ago a ladder fell on her head, and soon after that the gait became unsteady and the intellect weakened. On admission the body was fairly nourished, the gait staggering, tendon-reflex slight, the left side of the face partially paralyzed, and articulation difficult. There was slight deafness, the pupils were somewhat dilated, and the intelligence was feeble. She had occasional headaches, and vomited much, after food; the evacuations were voluntary; there was no change in the urine. Five days later, the symptoms became more marked; the pulse was slow and irregular, the pupils were sluggish. With the ophthalmoscope papillitis with congestion of veins, etc., was detected. Fifteen days later, she had occasional violent headache; the pupils, especially the right, were much dilated and insensible to light; the pulse was irregular, and loss of consciousness complete; respiration was stertorous. Occasionally there were general convulsions, followed by slight contraction of the upper extremities and rigid extension of the lower extremities. Both the contractions and the rigidity were most marked on the left side. There was no pyrexia at any time. The patient died the same evening. Post mortem, a capsule, easily detached, and measuring 8 centimetres by 6 centimetres (3·2 inches by 2·4 inches), was found in the substance of the right hemisphere, resting on the right lateral ventricle, and reaching to within half a centimetre of the longitudinal fissure. The convolutions were flattened, and the left lateral ventricle was distended with fluid. Brood-capsules, daughter-cysts, and echinococci were all present. The family appear to have had an old dog, but it is not known whether he was affected with worms.—*Medical Record.*

GENERAL PARALYSIS.—In the study of general paralysis, Dr. Baillarger (*L'Union Médicale*), has arrived at the following conclusions: 1. There are but two constant and pathognomonic symptoms of general paralysis, namely, dementia and paralysis. It is essentially a paralytic dementia. 2. The paralytic dementia pursues its course, in a large variety of cases, without the patient showing delusions. It thus exists independently of insanity. 3. There is a species of insanity characterized by quite peculiar delusions of inflated vanity or of hypochondriasis, with which are generally associated the symptoms of muscular ataxy. This species of insanity, considered hitherto either as simple insanity or as a form of general paralysis, is quite peculiar to it. Even when it is present in the slightest degree, general paralysis is threatened; it may be called paralytic insanity. 4. To this paralytic insanity may be referred all the cases recently described under the name of general pseudo-paralysis, at least those which are of the insane variety. 5. Paralytic insanity may terminate by recovery; sometimes simple dementia results without paralysis, but in the majority of cases it ends in paralytic dementia. General paralysis is often a secondary disease. 6. Paralytic insanity may suddenly declare itself in the course of chronic peri-encephalitis; it is then a serious complication. 7. When paralytic insanity is developed at the commencement of chronic peri-encephalitis, recovery is rather frequent, but the primary and principal disease pursues its course. This is what takes place in what are called the remissions of general paralysis. 8. Paralytic insanity, apart from these special characteristics, manifests the same symptoms, the same varieties, and the same changes as simple insanity. Inasmuch as patients affected with different forms of simple insanity arrive by different routes at simple dementia, so do patients affected with different forms of paralytic insanity arrive by different ways, but much more rapidly, at paralytic dementia. 9. Paralytic insanity has been hitherto referred to simple circulatory troubles; it is constituted by two different elements; one vesanic, and the other somatic. This is insanity *cum materia.*—*Medical Record.*

Œdema of the Aryteno Epiglottidean Folds, Especially in Chronic Affections of the Larynx.—The conclusion of Dr. Gouguenheim on this subject (*Annales des Maladies du l' Oreille, du Larynx,* are as follows: 1. This form of œdema is not always accompanied by dyspnœa. 2. When dysphagia is absent (which is rare) the œdema may be lateral and only be detected by the laryngoscope. 3. On laryngoscopic examination, the œdematous or hypertrophied folds do not join, or approach on inspiration, as Sestier has said, but on the contrary separate, following in this the movements of the vocal cord during respiration. 4. When the patient phonates, the tumefied folds approach, but without causing dyspnœa, and it is only when this movement is prolonged that spasm is produced and consequently dyspnœa. 5 When the folds are so œdematous that they are in contact, they are almost completely immobile, and inspiration does not cause dyspnœa, but emission of a sound, and a too prolonged examination produces spasm and dyspnœa very quickly, but without visibly changing the folds. In a very pronounced case, laryngoscopic examination, made during a fit of suffocation, allowed it to be seen that instead of opproaching at the moment of inspiration, the folds separated very slightly Suffocation and dyspnœa were not then the result of the mechanical approach of the tumefied folds, but of spasm only of the cord which was increased by a prolonged examination and by the emission of a sound. 7. The theory of Sestier as an explanation of the cause of suffocation in these cases is not correct. 8. The fits of suffocation and the inspiratory whistle are only due in these cases to an inter-current spasm, either of reflex origin, or caused by compression of the recurrent nerves. 9. The discovery of the aryteno-epiglottidean mass without accompanying dyspnœa is not a therapeutic indication of tracheotomy. 10. The tumefied folds must only be touched with great caution on account of the spasm thus provoked. 11. Spasm, in these cases, is not always an absolute indication for tracheotomy, for it often disappears, sometimes very rapidly; under different remedies, external or internal. 12. The author finishes by insisting that laryngoscopic examinations should be made where there are signs of laryngeal suffocation, which nearly all physicians attribute to œdema of the folds, for such an examination may discover the existance of subglottic lesions that will influence the matter of operation.—*London Med. Record.*

Treatment of Diphtheria with Oil of Turpentine.—Dr. Satlow (*Yahrb. fur Kinderheilk.*, Band xx., Heft 1,) after employing all the usual methods of treatment with varying success, has, since March 1881, confined himself to turpentine. His experience with it extends to forty-three cases, including eight adults. Of these, only one died. This was a feeble boy, five years of age, who, after the local symptoms had disappeared, suddenly succumbed on the sixteenth day of the disease to paralysis of the heart. The following were the complications: In three cases, extension to the larynx; in three, to the nose: in one, persistent albuminuria; in six, transient albuminuria, in one, hæmaturia (in a delicate woman after one ounce of turpentine, and lasting two days;) in four, paralysis of the palate. Transient strangury was common. Unless the case appeared grave from other reasons, the turpentine was withdrawn as soon as any renal complication showed itself, and recovery quickly followed without any œdema. Three cases of diphtheric laryngitis recovered without tracheotomy. The author thinks it only fair to add that, in addition to this internal treatment, he prescribed, chiefly in deference to public opinion, cold compresses (with, when the temperature was very high, packing,) and gargles of chlorate of potash or lime-water. The turpentine, which should be fresh distilled, was given to adults, in doses of a tablespoonful twice daily. Children, under fifteen years, received a teaspoonful, followed in both cases by a copious draught of milk. Where vomiting was produced, five to fifteen minims of sulphuric either were added. Small doses were found useless. —*London Med. Journal.*

Treatment of Trichinosis.—Dr. Isidor Hein, (*Communications of the Wiener Med. Doctorencollegium*, 1883, No. 4) say that, several hours after the ingestion of meat containing trichinæ, it is still possible to prevent a general infection of the organism by washing out the stomach and employing purgatives. Later, when the sexually mature trichinæ are present in the intestine, the attempt has to be made to destroy and remove them, in order to prevent the immigration of new generations of embryos. From a theoretical point of view, laxatives seem to be suitable for this purpose, but experiments and experience have taught that purgatives are not capable of removing trichinæ from the digestive canal, or of retarding the development and the invasion of the embryos. The destruction of the trichinæ by vermifuges is no more successful, and the treatment of trichinosis becomes more a symptomatic one. The course of treatment is commenced by a purgative, even if some weeks have elapsed since infection; as trichinæ, retarded in their development, may still be present in the intestine. Ruprecht recommends a dose of calomel. For the muscular pain, cold water, which also checks the debilitating perspiration, and inunction with chloroform, oleaginous, and spirituous fluids, may be tried one after the other. In the case under Dr. Hein's observation the application of an ice-bladder mitigated the pain; in other cases, long-continued warm baths and the enveloping of the extremities in flannel bandages were well borne. If sleeplessness he present, narcotics are indicated, preference being given to those which do not constipate. Expectorants are to be used in severe attacks of dyspnœa; Kratz recommends benzoated tincture of opium (paregoric) in a dose of from 30 to 60 drops. Salicylic acid is much to be recommended in the treatment of the fever, having at the same time an anthelmintic action, as the author has observed in patients with tænia, who have been ordered salicylic acid for rheumatism. It remains to be seen, however, whether it has an anthelmintic influence on trichinæ also. During the whole course of the illness the endeavour must be to sustain the strength of the patients, whose diet must be nourishing and easily digested.—*London Medical Record.*

Ataxic Movements in Acute Transverse Affections of the Spinal Cord.—A summary of this paper appears in the *Cent. für die Med. Wiss.*, No. 48, 1883. Two cases of so-called transverse paraplegia are described. The first was that of a man, aged 26, with fractured vertebræ, hemorrhage into the pleural sac (?), compression-myelitis of the dorsal spinal cord, complete motor paraplegia, and slight disturbance of sensibility. Gradual restitution of movement in the lower limbs, with the development of typical ataxy, occurred, and an almost perfect cure resulted. In the second case, a man, aged 22, had acute transverse myelitis, with complete motor, and partial sensory paraplegia, and incontinence of the bladder and rectum. Considerable improvement followed an intercurrent erysipelas, and severe typhoid fever. Pronounced ataxy occurred during the return of motor power without appreciable disturbance of the muscular sense, and a cure resulted in a year and a half. A kind of intermediate stage between the paralysis and the return of motility occurred in both cases, in which a considerable defect of co-ordination was apparent, with retained, and relatively only slightly disturbed, general strength. Since, according to general experience, co-ordination depends on undisturbed function of the posterior columns, it is possible that regeneration is relatively late here. It is remarkable that, in spite of the loss of co-ordination, and of the relaxation of the muscles of one or both sides, the tendon-reflexes persisted, and were even increased. These facts at any rate do not support Tschirjeff's view upon the origin of ataxy (*Centralbl. für die Med. Wiss.*, 1879, p. 842). In conclusion, the author remarks upon the very favorable influence of the two infectious diseases upon the recovery of one of the patients; such influence has been often observed in mental diseases.—*Medical Record.*

DIET IN TUBERCULOSIS.—In the *Berliner Klin. Wochensch*, No. 47, Dr. A. Bidder, of Berlin, concludes three articles on the relation between the alkalies of the food and the etiology of tuberculosis, by advocating a diet as free from potash salts as possible, but rich in common salt, as being a soda salt. He argues that the latter renders the tissues unfavorable to the development of the bacilli of tubercle, and that in young patients with tuberculous processes going on in the bones, joints, glands, lungs, etc., half a gramme to one gramme of common salt should be given three or four times daily with the food, according to age. If dislike to this be shown, benzoate of soda may be substituted in doses of 02 to 05 gramme (3 to 77 grains). Indeed, the latter salt (known to be useful in the summer diarrhœa of children) is highly relished; it is aromatic in taste, and increases the appetite. Bidder thinks, moreover, that the well-known injurious influence of iodide of potassium upon tuberculosis or scrofulous processes is probably due not to the iodine, but the potash, which is replaced by soda in the stomach. The diet should contain an excess of albumen, of fat, and of salt in the cases mentioned. The article concludes by a reference to rickets, in which a connection with tuberculosis is attempted to be proved. Rickets is here said to be due to an excess of potash salts in the food as one cause of it.—*London Med. Record.*

EXFOLIATIVE MARGINIAL GLOSSITIS.—This is the name given by M. Fournier (*Jour de Med. Prat*, Oct., 1883, p. 458) to a pecular and relatively rare inflammation of the tongue, well described in a monograph recently published by M. G. Lemonnier. This form of glossitis is found most frequently in children, but may be observed at an advanced age. The causes are obscure. It has been considered as a syphilide (Parrott;) but the relation is far from constant, and the same may be said of dyspepsia and malnutrition. Some of M. Lemonnier's patients have made an extensive use of tobacco or of alcohol; others had suffered from nervous diseases, rheumatism, or herpes. The three characteristic syptoms of the affection are: an irregular and sinuous patch of superficial inflammation and desquamation; a raised margin of whitish or greyish color surrounding the diseased part; a tendency to migration, causing the lession to change its form and seat very rapidly. It is either unilateral or bilateral, and is never accompanied by pain, so that it may remain for a long time undetected. It has often been confounded with the glossitis of smokers, cachectic glossitis, and some forms of mucous tubercle. Cauterisation hs no beneficial effect. The best treatment consists in the avoidance of irritating food and drink, and in the use of soothing applications or pulverisations.—*London Medical Record.*

NERVE-LESIONS IN HERPES ZOSTER.—An abstract of an article by E. Lesser, in *Virchow's Archiv*, Band. xciii., is given in the *Cent. für die Med. Wiss.*, No. 48. To his two previous cases, with the post mortem appearances, Lesser now adds a third, which confirms the justice of the view that herpes zoster is a nervous affection. During life, the eruption occupied the cutaneous regions of the fifth, and partly of the fourth, intercostal nerves. After death, the fifth was found strikingly thinner, flattened, and of a translucent reddish-grey color, contrasting with the normal tint. The fourth was similarly affected, but to a less extent. The microscopic investigation of the fifth intercostal nerve showed degeneration of numerous nerve-fibres; the fifth intercostal ganglion had almost lost its normal structure in its whole proximal half, while the tissue which normally contains nerve-elements was almost entirely replaced by connective tissue. There was similar deficiency of ganglion-cells and nerve-fibres in the fourth ganglion, though to a less degree, with extensive connective tissue fibres in their place. But no distinct atrophy of the nerve elements of the fourth intercostal nerve was made out. In regard to the connection between the nerves and skin affections, Lesser is of opinion that by the irritation of certain nerves, or, apparently, from the discontinuance of their functions, the death of particular parts of their tissue is caused in the corresponding cutaneous regions. The alterations may be microscopically minute, and in this case superficial, or they may assume larger dimensions, and then penetrate deeper. In any case, a reactive inflammation is the result of these processes.—*Medical Record.*

ACTION OF POWDERED CALOMEL UPON THE CONJUNCTIVA.—Dr. Goldscheider, of Niesse, relates the following case in the *Berliner Klin. Wochensch*: A soldier, 22 years of age, the subject of right-sided phlyctenular conjunctivitis, was treated with calomel powder. He came under notice as a recruit, was badly nourished, and anemic. After fifteen powderings, ecttropium of the lower lids was remarked; the conjunctiva was of a dark red color, and in the whole length of its duplicature at the folds of the lid presented a firmly attached white, apparently false, membrane. The patient had not used iodine. The membrane resolved itself into small shreds in about sixteen days, the mucous surface remaining of a dark-red color. It was surmised that the calomel had been converted into corrosive sublimate through the presence of the saline constituents of the tears. The sprinkling of calomel on the eyes, at the same time that iodides have been taken internally, has been known to be followed by decomposition of the chloride, and the separation of iodide of silver by the lacrymal secretion. The patient, as observed, had not taken iodine. The calomel had come into centact only with the lacrymal fluid; a double chloride had been formed by free acids and albuminates of the blood, as takes place out of the living body, resulting in the bichloride, and the ammonia-chloride, or white precipitate. In order to put the matter to the proof, the experiment was tried on the conjunctiva of the left eye, and was followed by the same irritating results in a less degree. That the calomel was absorbed from the conjunctiva, was proved by the presence of the mercurial in the urine.—*London Medical Record.*

VERATRINE IN TREMBLING.—M. Bazile Feris (*Jour. de Med. de Paris*) has used veratrine in some cases of trembling, and has obtained excellent results. He has used it in thirteen cases—six being of alcoholic origin, two came on after typhoid fever, and one was due to sclerosis *en plaques*. All patients were rapidly relieved of the disagreeable symptoms.

Feris ordinarily gives veratrine in pills containing gr. 1-130 each, the dose being four pills, to be taken during the day. From his results he draws the following conclusions: Trembling dependent upon alcoholism, or consecutive to pyrexiæ, disappears under the veratrine treatment. The action of the drug is almost instantaneous, but the administration should be kept up for some time after the trembling has disappeared.—*Medical News.*

ECZEMA CAPITIS.—In the ordinary eczema of the head in children, so commonly met with in dispensary practice, after two or three thorough cleansings, the daily application of the following salve nearly always suffices to obtain a rapid and lasting cure:

℞. Acid Salicylic, gr. x.
Tinct. Benz., *m* xx.
Vaselini, ℥ j.
M. ft. ung.

On other parts where a soft, easily melting salve such as this is not suitable, or where a firm dressing or a drying effect is desired, the following paste should be rubbed on.

℞. Acid Salicylic, gr. xix.
Vaselini, ℥ j.
Zinci Oxidi, Amyli, aa ℥ ss.
M. leniter terens, fiat pasta.—*Edinburgh Medical Journal.*

LUKEWARM BATHS IN PNEUMONIA AND ENTERIC FEVER.—A paper, by Dr. Bozzolo, on the employment of lukewarm baths in pneumonia and enteric fever is reported in the *Centralbl. fur Therapie*, of August 1883 Out of sixty-four cases of pneumonia, twenty-seven were treated with baths and thirty-four without. Of the twenty-seven, only one died, while six, of the thirty-four cases proved fatal. The average stay in hospital of the bath cases was nineteen days, of the others, twenty-six. A fall in the temperature was seldom observed after a bath of one hour's duration, but after two or three hours the fall was marked, and was more decided the longer the bath, five hours being the longest. The temperature remained low longer after the lukewarm bath than after a cold one, but the feeling of well-being which succeeds the cold baths does not come on so quickly after the warm-bath. In enteric fever, lukewarm baths are not so useful as cool or cold baths, which influence rapidly the stupor, delirium, and other similar symptoms.—*London Med. Record.*

VALERIANATE OF ZINC IN DIABETES INSIPIDUS.—Dr. Cole, in the *Lancet*, Nov., '83, p. 771, records the notes of a case of a diabetes insipidus in a lady, aged 30, single, of delicate constitution, who had been ailing for nearly two years. The author commenced treatment with ergot, in gradually increasing doses of the liquid extract, until half an ounce every four hours was reached. This amount was maintained for more than a week, without the least effect on the disorder. Next, valerianate of zinc was given in doses of 5 grains every six hours, and after a fortnight the patient was completely cured.

TREATMENT OF SPASMODIC WINKING.—Under this head Dr. Friedreich Betz (*Memorabilen*) relates the history of a boy, fourteen years of age, who had suffered for several years from a bilateral nictitating spasm of the eyelids. Several physicians had attempted to relieve him, in vain. The boy was healthy, and his eyesight good. He had, however, very long eyelashes and the edges of the lids were reddened. Betz performed epilation of numerous lashes above and below on both eyes. The treatment was immediately successful.—*Practitioner.*

EXTRACT OF PHYSOSTIGMA IN DIARRHŒA.—MASCHKA (*Revue Scientifique*,) has several times used the extract of the Calabar bean in diarrhœa, and with a good deal of success, finding it superior to opium. It is very efficacious in the treatment of nervous or emotional diarrhœa, and the diarrhea caused by acute intestinal catarrh. There is but little danger in its administration; less than in the usual opiates, especially in children, and considerably less than with the extract of nux vomica, which has analogous properties.—*Medical News.*

LINGUAL HEMIATROPHY IN LOCOMOTOR ATAXY.—This symptom is not unfrequent, according to M. Ballet, and may be observed quite at the onset of the disease, with or without ocular lesions or atrophy of some muscles of the extremities. The atrophy is always unilateral, and the diseased part looks wrinkled and small; sometimes it is the seat of slight tremor, with fibrillary contractions. Mastication, deglutition, and speech remain normal. Lingual hemiatrophy seems to be much more frequent in locomotor ataxy than in any other nervous disease, and may be useful in the diagnosis.—*Brit. Med. Journal.*

TREATMENT OF TOOTHACHE BY SUBCUTANEOUS INJECTION OF PILLOCARPINE.—In the *Vracheb Vendom.*, 1882, No. 543, p. 3551, Er. P. M. Popoff emphatically recommends hypodermic injection of a solution of pilocarpine (half a grain to two scruples of water) as a most reliable remedy for toothache. He injected ten minims into the temporal region if the diseased side and saw almost instaneous relief, which was complete and permanent.—*London Medical Record.*

TREATMENT OF ENTERIC FEVER.—Dr. M. Popoff, of Cronstadt Marine Hospital, summarizes (*Meditz. Pribav. k Morsk. Sborn.*, September, 1883), his views on the subject thus: 1. Antipyrectics (quinine and salicylates) administered during the first stage (the stage of high febrile movements) of enteric fever are decidedly unable to produce any substantial influence on the course of the thermometric curve. 2. Cold baths are a dangerous plan of treatment, since they are apt to lead to serious complications, especially to chronic inflammation of the lungs. [The author's observations, on which his opinions are based, were made during a winter season.] 3. On the contrary, cold wet affusions and rubbing may be safely and successfully employed during the whole period of high febrile temperatures. 4. The most careful attention must be paid to keeping up strength of the typhoid patients by a liberal nourishing diet. On a slightest sign of prostration there are indicated internal administration of stimulants (brandy, to four ounces daily) and hypodermic injections of camphor solution in ether (camph. gr. x., ether ℥ss., from one to three syringefuls, twice a day). Of his forty-five patients, the author lost three, or 6.6 per cent.—*London Medical Record.*

THE MICROCOCCI OF PNEUMONIA.—The presence of micrococci in pneumonia was first described by Klebs, and afterwards by Eberth. In 1882, Dr. Friedländer published some more detailed observations on the subject, having demonstrated the presence of these organisms in eight successive cases, and having shown that in those cases which died early in the disease they were present in enormous numbers, not merely in the exudation, but also in the lymphatic vessels of the affected portions of the lung. These observations have since been confirmed by several observers; and, in a recent number of the *Fortschritte der Medicin* Dr. Friedländer gives the results of an elaborate investigation on this subject which he has been conducting with the assistance of Dr. Frobenius.

The micrococci of pneumonia are large oval bodies which can be demonstrated by any of the aniline dyes, but are best shown by placing the sections first in Ehrlich's gentian-violet aniline staining fluid, and afterwards in a weak watery solution of iodine and iodide of potassium for a short time. In sections so treated, the nuclei and the tissue lose the violet stain in oil of cloves, so that, when mounted, the violet micrococci are very evident on the yellow ground. The micrococci differ from other micro-organisms found in the body in being surrounded by a capsule, which, in Friedländer's opinion, is composed of mucin. This capsule is not very easily demonstrated in sections, being best shown by staining with gentian violet, but it is well seen in dry specimens of pleuritic exudation, or of the expressed fluid from pneumonic lungs, the micrococci being in both very numerous. These capsules are not, however, always present; in several cases, where numerous cocci were present, the capsules could not be demonstrated, but in all of these the patient had not died in the early period of the disease. They are held to be a product of the life of the micrococcus. These micrococci have not yet been demonstrated in the blood in man, but in the animals in which pneumonia was induced they were present in the blood.

Having shown the constant presence of a particular form of organism in pneumonia, the authors made pure cultivations of these bodies. This they were successful in doing in three instances. The material employed was, in the first instance, the solidified blood-serum used by Koch for cultivating the tubercle bacillus; but afterwards gelatinized meat-infusion was inoculated with success. In the gelatine, the micrococci grew partly on the surface, and partly downwards into the gelatine, forming an appearance like a pin, the head of the pin being on the surface. This is a mode of growth apparently peculiar to these organisms. They grow also readily on potatoes, in the form of little grey drops; and when again inoculated on the gelatine, they again grow in the form of pins. The micrococci in these cultivations are oval, resembling those in the lung, but no capsules are formed around them.

The third part of the research consists of attempts to produce pneumonia in animals by means of the organisms cultivated in the manner described above, and consists of two divisions; one where the cultivation was injected through the thoracic wall into the pleura and lung; and the other where the micro-organisms were inhaled. The pin-shaped cultivation was diffused through distilled water, and then injected into the thorax of an animal by the glass syringe devised by Koch; the purification of the syringe and skin and the other precautions being carried out in the manner described by Dr. Koch. Injections of this fluid, in quantities varying from a half to one cubic centimetre, into the thorax of nine rabbits, were entirely without effect. Six of these were killed at various periods, but no morbid changes were found, and the other three were allowed to live. On the other hand, injections into thirty-two mice were always followed by the death of the animal, generally in eighteen to twenty hours; and on post mortem examination, a reddish turbid fluid was found in the pleural cavities; the lungs were very red, almost completely empty of air, with numerous patches of red hepatization; the spleen was enlarged, but the other organs were normal. On microscopical examination, enormous numbers of micrococci were found in the pleuritic fluid, partly free in the fluid, partly contained in lymphoid cells, and they were surrounded by capsules. In the hepatized lung they were also present, and they were found in the blood in considerable numbers, and in the spleen. Control-experiments were performed with the same fluid heated so as to destroy the organisms, but the animals remained unaffected. Numerous cultivations were made from mice, and in all cases the typical pin-shaped mode of growth was obtained, and the organisms so cultivated, when injected into other mice, again produced the disease. Injections into guinea-pigs were not so uniformly successful; in six only of eleven animals was pneumonia produced; the other five remained unaffected. The guinea-pig, therefore, in its relation to these micrococci, stands about midway between the rabbit, which is unaffected by them, and the mouse, which always succumbs. In the case of five dogs treated in the same manner, only one died, and in it was found a typical pneumonia and pleurisy; the other four only showed a temporary elevation of temperature and indisposition, which soon passed off completely.

The inhalation-researches were made entirely on mice, the fluid containing the organisms being introduced by means of a hand-spray into the cage in which the animals were. Three experiments were performed. In the first, two mice inhaled the material for five minutes; one of these was lost, but the other died in four days with advanced pneumonia and pleurisy, the exudation containing the typical organisms. In the second, four mice inhaled the fluid; of these, one died in four days of pneumonia, one was killed in three days, but was found to be perfectly healthy, and the other two remained well. In the third experiment, six mice were used; of these, two died in four days of typical lobar grey hepatisation; the other four were unaffected.

These researches are very striking, and lend great support to the view, which has been gaining ground of late, that pneumonia is a specific infective disease. That all the mice subjected to inhalation did not get pneumonia, is explained by Friedlander on the supposition that, in most cases, little or none of the fluid entered the lungs, because the animals turned their backs to the spray. As regards these experiments, however, there is one omission, for no mention is made of control-experiments, such as spraying cold water into the cage; for those who hold that pneumonia is simply due to catching cold may say that those animals which died of pneumonia got it from the wet spray, and not by inhalation of these specific micrococci. There are also other points which might have been made more convincing; nevertheless, the research is a great addition to our knowledge and we hope that it may direct the attention of practitioners to the observation and recording of cases of possible epidemic pneumonia. Such observations can be better made in small towns or villages, where the sick are under the care of a few practitioners, than in large cities, where collective investigation of an outbreak is a matter of great difficulty.—*British Medical Journal.*

SURGERY.

Hahn on the Treatment of Syphilitic Ulceration of the Rectum by Colotomy. —Dr. Eugen Hahn, of Berlin, in a contribution to the *Archiv für Klinische Chirurgie*, Band xxix., Heft 2, after some remarks on the differences in opinion as to the origin and the nature of the so-called syphilitic ulceration of the rectum, observed almost exclusively in women, states that this affection, when advanced and extensive, is very rebellious to both local and general treatment. In most cases, notwithstanding the repeated use of antiseptic and astringent injections, division of strictures, and the application of the sharp spoon and the actual cautery, together with the internal administration of iodide of potassium and mercurial preparations, the affection persists, and, though slower in progress, is not less surely fatal than carcinoma of the rectum. Death results in some cases from the exhaustive effects of profuse discharges and amyloid degeneration of several organs; in others from perforative peritonitis, and in others again from pyæmia and septicæmia.

The author advocates the performance of colotomy in desperate cases of rectal ulceration where all other means have been tried without success, and where a fatal result seems inevitable. Mention is made of eight such cases in which he had performed the operation.. The subjects of two of these cases had recovered and were living when Dr. Hahn read this paper at the congress of German surgeons in April of last year, and one patient was then still under treatment. Three patients had died from intercurrent affections, after intervals of from eight to thirty months. Two patients died soon after the operation, one from inanition, the operation having been too long delayed, the other from peritonitis. In each of these the operation was performed in the left groin under strict antiseptic precautions, the attached portion of large intestine having been left unopened until the sixth day. Anterior colotomy is considered by the author to be less dangerous than the posterior or lumbar operation, and the following reasons are given for his selection of the former operation in the above-mentioned cases, in all of which the ulceration had been confined to the rectum. In the first place, after anterior colotomy, the patient is enabled to apply cleansing lotions to the ulcerated surfaces and to wash out the rectum. Secondly, this operation, it is thought, may be performed with more directness and precision than lumbar colotomy. Thirdly, and this seems to be the only important point, the wound can be maintained absolutely aseptic until the second stage of the operation.

In cases of exhausting and obstructive disease of the descending colon, as, for example, some new growth which can not be extirpated, or what, however, very rarely occurs, extension of rectal ulceration to the splenic flexure of the colon, Dr. Hahn suggests colotomy in the middle line in front. In cases where it has been necessary to open the cæcum or lower part of the ileum, the patient, it is stated, usually dies from inanition in the course of a few weeks, notwithstanding the utmost care and judgment in supplying suitable nutriment. From the results of his experiments on dead bodies, Dr. Hahn concludes there is no other part of the colon that can be reached so readily and so surely as its transverse portion in the middle line. He has performed *post mortem* operations in this region on twelve subjects of both sexes and different ages, and has found that, except under rare conditions—extreme dilatation of the stomach being one—the transverse colon may be exposed in the middle line just above the navel, and in a line drawn directly across the front of the abdomen from the eleventh rib on one side to that on the other. The transverse colon, however, though it can be thus readily exposed, can not be so readily brought to the surface and fixed to the margins of the external wound. The presence of the great omentum in this region, and the necessity of dividing it in order to reach the large intestine, demand special precautions for the avoidence of hemorrhage. These difficulties to the performance of median colotomy during life would be found still greater in fat subjects.—*London Medical Record.*

Prati on Resection of Twenty-one Centimetres (8½ Inches) of Intestine.—A woman, aet. sixty-one, with an old inguinal hernia of the left side, was admitted February 9th. Symptoms of strangulation had existed for five days. The operation was performed under salicylic spray. On opening the sac, the gut was seen to be gangrenous, and adherent to the neck of the sac. On gently tearing down these adhesions and pulling out the gut, stercoraceous matter was found to escape from an ulceration at the site of stricture. The loop of intestine involved measured twelve centimetres. Above and below, for some distance, the gut was contracted and fusiform. Owing to this contraction, it having been decided to excise the portion of bowel, it was necessary to remove considerably more than the twelve centimetres. Two loops were inserted into the mesentery, so that after division the cut ends of the gut should not slip into the abdominal cavity; ligatures were also applied to the mesentery, so as to isolate the bowel from the entero-mesenteric circulation, and so to prevent hemorrhage. The bowel was then divided by scissors transversely, and then the mesentery half-way between the ligatures and bowel. There was only a slight oozing of blood from the cut ends of the gut, which quickly yielded to irrigation with salicylic solution. The cut ends, when brought together, were found to be of different diameters, the lower being one-third smaller than the upper. This necessitated narrowing the upper by suture, sewing serous membrane to serous membrane. The lower end was cut obliquely, so as to make the aperture larger. The diameters being thus made equal, the two ends of the bowel were brought together, and one-half their circumference united by suture, using silk and very fine needles, the serous coat being first sewn, and then the mucus by other sutures. In the other half circumference this was naturally reversed, the mucous coat being first sewn, and then the serous. Twenty-seven stitches were put into the serous coat and a few less into the mucous, two millimetres (.08 inch) apart in the serous and three or four millimetres in the mucous, and as near as possible the cut edge. The intestine was then securely closed. The bowel was easily returned to the abdominal cavity, and the external wound closed, a drainage-tube being inserted. The operation lasted two hours; the patient was profoundly exhausted, and died of shock twenty-eight hours afterward. At the *post mortem* examination the abdomen was not tense; the external wound was united; the dressings were scarcely stained. The intestines were pale, except the part operated on, which was hyperæmic and red. The peritoneum was everywhere pale. The piece of intestine containing the suture was removed; there was firm union of the serous covering; even when the stitches were removed it was found to hold water, with no leakage. The union of the mucous coat was not so far advanced, but there were evident though delicate adhesions arising from the submucous connective tissue. Prati says that these results are very encouraging. He thinks this operation will be found to be one of the most useful of modern surgery.—*London Medical Record.*

TREATMENT OF CANCER OF THE RECTUM.—At the close of a recent lecture on this subject, Prof. Trélat (*Revue de Thérap.*) drew the following conclusions:

1. Cancers of the rectum which do not cause accidents should be left alone.
2. Cancers of the very extremity of the rectum, or of the margin of the anus, should be extirpated.
3. Accidents should be treated as they arise, but palliative measures are to be avoided. In this respect he is in accord with Prof. Verneuil, but opposed to many English surgeons.
4. When the finger can be passed beyond the cancerous mass, rectotomy should be performed, otherwise not; but a way of derivation should be made by lumbar colotomy, or by forming an inguinal anus.—*Medical News.*

TREATMENT OF DYSPNŒA IN THE EMPHYSEMATOUS BY THE ELASTIC RESPIRATOR.—Dr. Bazile Féris (*Bull. Gén. de Thérap.*), considering that dyspnœa in emphysema is produced by loss of elasticity of the alveolar walls, the lungs being hence kept in the position of inspiration, has designed an apparatus to facilitate expiration, and thus restore to the lung its lost elasticity and abolish the dyspnœa. The apparatus designed is extremely simple, and can be easily worn. It resembles exactly a double hernia truss; from a pad situated between the shoulders, the two limbs of the truss pass round under the arm-pits to the terminal pads in front, which are rather larger and thinner than those of a hernia truss. Light straps passing over the shoulders keep the pads in position. The parts at which these pads should be made to exercise pressure are the least resistant parts of the thoracic wall, usually the upper and anterior part of the chest, over the cartilages and the ends of the ribs. The first effect of the pressure is to drive the air out from the chest, thus aiding expiration; inspiration follows naturally, the inspiratory muscles being increased in volume. Tracings show increased movement of the chest when the apparatus is worn. The cases in which M. Féris has tried his respirators have been relieved of their dyspnœa in a remarkable manner; the benefits conferred can be confirmed by experiments with the spirometer, the volume of air respired being found to be nearly double that breathed without the apparatus.—*London Medical Record.*

GREY DEGENERATION FOLLOWING NERVE STRETCHING.—Westphal has recently described the the following case, of which an abstract is given in the *Centralbl. für Med. Wiss.* A man, aged 30, had chronic motor paresis of the lower limbs, to which were added spastic symptoms, contractions, heightened reflex excitability, increased knee-jerk, disturbances of sensibility. These latter affected chiefly the sense of temperature, extended over legs and buttock, and were very variable. Upon energetic stretching of the right crural nerve there followed immediate transitory disappearance of the knee-jerk, and the rigidity of the side operated on; the permanent results were, incontinence of urine and feces, flexion with rigidity in the lower limbs, and greater inability to move. Death ensued three days after the operation, with gradual increase of the symptoms, after an intercurrent right-sided hemi-anæsthesia and ataxy. Post-mortem there were found—diseased spots in the brain, pons Varolii, and medulla oblongata; diffused sclerosis of the spinal cord in the cervical and dorsal regions (most intense mid-dorsal), and multiple foci of degeneration in the right half of the lumbar region. Here there existed chronic cerebral degeneration in spots with diffused spinal degeneration. The foci in the right half of the lumbar region of the spinal cord were, in all probability, the result of a pull upon the cord by the nerve stretching. A case is given of spastic spinal paralysis, in which nerve stretching had done good as to the spastic phenomena, without effecting, however any lasting improvement.—*London Medical Record.*

Adenoid Vegetations of the Pharynx.—Dr. K. Dehio (*Revue de Laryngol d'Otol. et de Rhinol.*) concludes an article on this subject as follows:

1. The adenoid vegetations which are frequently developed in the naso-pharyngeal cavity of a child are shown externally by the peculiar appearance of the face; this peculiarity consists in permanent opening of the buccal cavity, lengthening of the face, feebleness of the jaws, projection of the cheek bones, and projection forward of the superior maxillary region.

2. Anatomically, this modification consists essentially in a deformity of the superior maxilla. This bone is flattened transversely in its buccal part. The alveolodental curve is deformed both in its form and dimensions. The lateral parts are sometimes diminished to one-half their transverse diameter. *Per contra*, the depth of the palatine vault is increased. In this way the vault is narrowed and deepened.

3. The teeth, on the contrary, preserve their volume, and in this manner they are ranged irregularly before and behind the dental arch. More often they project forward, *en masse*, producing a considerable projection of the whole anterior range, so that the front teeth project over the lower lip.

4. This peculiar conformation of the palatine vault and the dental arch has been variously interpreted. An ethnological signification has been generally given to it, some authorities regarding it as evidence of superiority, others of inferiority of race. —*Medical News.*

Injection of Tincture of Iodine into Ovarian Cysts.—Cantieri (*L'Imparziale*) has adopted this method in two cases, with good results.

Commencing at the superior part of the cyst, he inserted the needle of a Pravaz canula, and injected half a canulaful of tincture of iodine, this being repeated from four to eight times, at intervals, until the lower portion of the cyst was reached. In neither of the two cases was there collapse, intoxication, or inflammation, and there was only slight fever. The size of the tumor greatly diminished. In cases of multilocular cyst, the injections should be multiple.—*Medical News.*

MISCELLANY.

The Use of Tobacco by Boys—By Edward O. Ottis, M.D., (Harv.) in the Boston *Med. and Surg. Journal.*

One might deem an apology almost necessary for adverting again to the trite subject of the use of tobacco, a subject which has been discussed almost from time immemorial, and of which so much true and false has been said. Still it is a fact that tobacco using among boys is common, and, further, most medical men, I think, will admit that the use of tobacco by boys, either moderately or immoderately, is injurious. So long, then, as this is the state of things, it may not be amiss to raise one's voice from time to time against the abuse. Although not much that is new upon the matter may be presented, every agitation against an evil does something towards eradicating it.

I propose to leave out entirely any discussion of the effects of tobacco, injurious or otherwise, upon adults, and refer only to its use by boys.

My attention was especially directed to this subject while in practice at Exeter, N. H., where I met with many of the students of the Phillips Exeter Academy, and noted the effect on them. I became still more interested by reading—through the kindness of the late principal, Dr. A. C. Perkins—a large number of letters sent by parents, teachers, and others in response to a circular letter of the principal asking their opinion regarding the use of tobacco by boys in the school. To the circular and letters I shall refer further on.

As to the exact percentage of boys who use tobacco there do not seem to be any very accurate statistics. At the academy above referred to I should say that at least one-half of the students used it. The statement was made some time ago, I believe, in a circular paper, that seventy-five per cent. of school boys over twelve or thirteen years old smoke cigarettes. I am inclined to believe that this is too high. At the Boston Latin School, of those in the upper classes from fourteen to eighteen years of age, the head master stated last year that probably about half used tobacco to some extent. The number of another had nearly doubled. This is enough to show that the evil prevails extensively, and gives good reason for serious apprehension.

Whatever injurious effects the excessive and constant use of the drug may have upon adults, these are those marked intensified in the case of the youthful user of tobacco; and, moreover, the youth are more inclined to its use to excess, for theirs is an age of immoderation. For example, a young student, from fifteen to seventeen years of age, I should think, told me he was smoking about a bunch of cigarettes a day, and although promised a trip to Europe if he would abandon the habit, said he did not think he could do it even for that prize. It is a time of rapid change, physically and mentally, with them; there is a constant development going on, and although I am not aware that any careful series of observations have been made, still I am sure that the general observation of all is to the effect that tobacco interferes with and retards the proper symmetrical development both of mind and body. Of course, there are exceptionally robust and strong boys who, although they use tobacco, mature into sturdy men with good minds, but it is in spite of the tobacco. The especial deleterious effects of tobacco upon the young are pretty well known from all the discussion and much exaggeration that has been rife about them. I will briefly mention some of them:

There is the so-called "tobacco heart," an irregular, irritable heart. Dr. Gihon, in his report on the United States Naval Academy, says, "The annual examination of cadets reveals a large number of irritable hearts among the boys who had no such trouble when they entered the school." This was before tobacco was prohibited at that institution.

Another effect is defective muscular coördination, as shown in the tremulousness of the hand in manipulating a pencil or pen, and inability to draw a perfectly straight line. The professor of drawing at the Naval Academy said that he could invariably recognize a user of tobacco from this inability. I myself observed the same thing in the case of a young man who smoked continually.

Besides impeding mental growth it is an obstacle to mental application and effort. It is said to produce progressive deterioration of the intellect, and to impair its integrity. At the instance of Napoleon III. a commission was appointed to examine the young men in the Government training schools of France as to the effect of tobacco upon them. The students were divided into two classes, the smokers and non-smokers. The former were found so inferior, physically, mentally, and morally, that the use of tobacco was prohibited in all the schools under governmental supervision. In the Ecole Polytechnique it was found that the non-smokers took the highest rank in every grade, and that the smokers continually lost grade.

The principal of a boy's school near Boston stated that the habit of smoking was more prevalent in the lower classes than in the upper, the reason being that the smokers were usually the poorest scholars, and were gradually weeded out as the class advanced in the school. In one of the letters above referred to the writer says: "if a successful salesman to whom I was paying a high salary should begin the use of tobacco, I should feel that about fifteen per cent. of his vitality or ability was taken from his usefulness, and hence should be taken from his salary."

It is said to impair the memory. In another one of these letters; the writer somewhat graphically relates the effect of tobacco upon his memory, as follows: "I commenced the use of tobacco when thirteen years old, both smoking and chewing. I went to school but could not study, had no ambition at all to learn anything, and it was almost as well not to learn, since I could hardly remember anything from one school to the next. . . . The most lasting injury is the fact that tobacco ruined my memory, which does not come back to me, although I have not used tobacco for fifteen years."

Another writer says that there is a young man in his factory twenty-one years old, powerfully built, and weighing one hundred and eighty pounds, brought up on a farm, who uses tobacco. Years ago he noticed a loss of memory, and a diminution of vitality generally.

It is a well-known fact that tobacco may cause defective vision. Dr. Gihon in the report above referred to says: "I have myself several times rejected candidates for admission into the Academy on account of defective vision, who confessed to the premature use of tobacco, one of those from the age of seven." I have noticed that the mechanical irritation of the smoke, especially from that of cigarettes, which bring it so near the eyes, will producé and keep up catarrhal trouble. I have a suspicion that tobacco used as the boy is emerging from boyhood into manhood causes an undue irritation and excitability of the sexual system, prompting to abuse and excesses.

Then there is the irritation of the mucous membrane of the mouth and throat, impairment of digestion, sometimes, an habitual sense of uneasiness, palpitation, hypochondriasis.

With regard to cigarette smoking by boys, I will refer to two paragraphs from an editorial on the use of tobacco in the Boston *Medical and Surgical Journal* for November 23, 1882: "The number of young men who smoke cigarettes is almost startling. It is not only students but even school-boys in their teens who vigorously and openly indulge in this dangerous habit." And again: "The dangers, then, which are incident to cigarette smoking are, first, the early age at which it is taken up; second, the liability to excess; and third, the bad custom of inhaling the smoke. These are dangers superadded to those attendant on the ordinary use of tobacco, and should be carefully considered by all medical men."

Dr. Witter, of Grand Rapids, Wis., in a paper in the report of the State Board of Health of Wisconsin for 1881, among the conclusions which he deduces from a large number of letters written on the subject by physicians of the State, says: "That beginning the use of tobacco in early life can not be too strongly condemned as producing most pernicious effects upon the constitution of the young, and as impairing greatly, if not wholly destroying, the chances of success as students and scholars."

The evil effects, then, of tobacco upon boys which can be said to have been fairly proved by observation, are:

1. An interference with, and impairment of, the general development, physically and mentally. Probably it does this by retarding progressive cell change, and impairing nutrition. In an adult the development is attained, consequently he can smoke with impunity so far as this effect is concerned, when the boy only does it with injury.

2. The tobacco heart. This likewise happens to the adult, but is, I should think, more likely to happen to the youth, and with graver result, because his is such an unstable age physically. For this same reason the other injurious effects are more liable to be intensified in the youth.

3. Defective muscular coördination. I have but little proof to show that this condition is more than temporary, continuing only while the tobacco is used.

4. It reduces the intellectual power of the boy. It does this either by opposing mental application and effort, or else by producing deterioration of the intellect, probably both to a greater or less extent.

5. It impairs the memory. What proof I have adduced seems to show that this is a permanent injury.

6. It may cause defective vision, and also irritation more or less chronic, to the external parts of the eye.

7. It may unduly excite the sexual system and lead on to excesses. I have no positive proof of this, but my observation among boys rather points to it.

8. Irritation of the mucous membranes of the mouth and throat, more especially in case of cigarette smoking.

9. It may impair digestion, and produce other derangements, such as habitual uneasiness, hypochondriasis, and so on.

One can not reason as to the effect of tobacco upon boys from its effect, or lack of effect, upon the mature man. The conditions are different. It would be quite as reasonable to say that, because to a sick man a certain drug is administered with good effect, the same drug may be administered to a well man with no evil effect.

If what I have said is true, or approximately true, it would seem eminently wise to do what we can to keep tobacco from boys. It is a pity to allow them unwittingly to do that which may prevent their highest development, physically, mentally, and morally. It is the physician's duty to expose the danger and warn parents and teachers: The latter must use their influence and authority both by persuasion and restriction. In schools, after the case has been fairly presented to the boys, I believe absolute prohibition should be enforced with all the rigor of the school authorities. I know of no greater aid to effectually bring about this result than a good gymnasium, with a competent medical director.

I am fully aware with our large freedom how many difficulties there are in the way of prohibition, but still I believe it would lead to better results than any other method, and reduce the evil to a minimum.

You cannot reason with boys, as a rule, on the matter. If you present to them all the future evils which may accrue to them from its use, that their chances of future success are so much lessened, that they may be laying up for themselves ill health, shattered nerves, and an impaired mind, they may assent to it all, and then the next moment forget it, so little do they regard the future.

What was done at the military and naval academies when the evil was appreciated, the following notes to the principal of the Phillips Exeter Academy will show:

I. U. S. NAVAL ACADEMY, ANNAPOLIS, MD., *May* 20, 1882.

SIR,—I beg to acknowledge the receipt of your letter of the 18th inst., and in reply to inform you that the use of tobacco in every form is prohibited to students of this institution.

Very respectfully, ———, Supt.

II. HEADQUARTERS U. S. MILITARY ACADEMY, WEST POINT, N. Y., *May* 18, 1882.

SIR,—The officers in immediate charge of the cadets were unanimously of the opinion that the use of tobacco worked great injury, and the Academic Board was practically a unit in favor of its prohibition.

Very respectfully, your obedient servant,
———, Adjutant.

The president of one of our colleges says: "We have required our students to abstain from the use of tobacco since the founding of the college, now almost fifty years. My impression is that we would sooner lose half of our students than dispense with the rule. We never have any objection to the rule from pupils or their parents. All believe in it, but every year we part with one or more who cannot overcome the habit. We do not treat the use as an immorality, but as a disqualification for membership. We give them an honorable dismission that they may go elsewhere."

In conclusion, it may be of interest to read the circular before referred to, and give the result of the answers, a few of which I will read as giving the opinion, and often the experience of intelligent men on the subject, though most of them not medical men:—

PHILLIPS EXETER ACADEMY,
EXETER, N. H., *May* 15, 1882.

DEAR ———,—The effect of tobacco upon boys has of late claimed the attention of many persons interested in the welfare of schools in England, France, Germany, and America. It has been the subject of discussion in our own Faculty. So far as we can learn, it is the unanimous testimony of physicians that the use of it by boys and young men is bad for mind and body. For this reason it has already been prohibited in the U. S. Naval Academy at Annapolis, and more recently in the U. S. Military Academy at West Point. In the report of the Surgeon General of the U. S. Navy for 1879 there is a careful scientific discussion of this matter by Dr. A. L. Gibon, Medical Director at Annapolis. Brief extracts from this report are sent herewith, to which your attention is respectfully called.

We should be glad to have you write to us and state what your own preference is as to the use of tobacco by boys in whom you are most interested, and also whether you would regard a rule prohibiting it entirely in this school as reasonable and practicable.

If any effort is made to suppress by school authority a practice that is working so much mischief with boys and which yet is to many boys so attractive, we feel that the cooperation and support of parents is first of all to be sought.

You will observe that the question of the use of tobacco by adults is not touched; the inquiry relates simply to boys.

If you will give us your views upon this matter you will much oblige us and assist us in determining just the right measures to be taken with boys who are committed to our care.

Yours very respectfully,
———, Principal.

In response to this circular one hundred and sixty letters were received from parents, teachers, and others interested in the subject. Of these one hundred and sixty, all were unqualifiedly opposed to the use of tobacco by boys.

One hundred and twenty-four were in favor of prohibiting its use entirely in the school.

Ten were in favor of prohibition, if such a rule could be enforced.

Eighteen expressed no definite opinion regarding prohibition.

Eight thought a rule prohibiting it was not practicable.

RAINBOWS.—Professor Tyndall delivered a lecture on Rainbows, which will be long remembered by all who were privileged to listen to it. That the learned doctor is one of the most original thinkers and experimenters of the age no one will deny, and his last Friday's discourse at the Royal Institution will, we think, be conceded as one of the most interesting with which he has favored the scientific world. He commenced by treating his subject historically and experimentally. Rapidly sketching the researches, among others, of Descartes, Newton, and Thomas Young, he showed how we have arrived at our present exact knowledge of the primary and secondary rainbows, explaining the refraction of the rays of light from drops of rain, and illustrating his observations by means of diagrams. The experiment which gave such unbounded pleasure to his audience was undoubtedly the shower of filtered water which was caused to fall in the darkness through a very fine "rose," and upon it was thrown a beam from an electric light. Clad in oilskin, Professor Tyndall entered the shower, and, with his back to the lantern from which the light was projected, he peered through the falling particles of water, and stated there was visible a perfectly-formed primary bow and secondary bow, with "supernumerary" bows. Puffs of steam from a boiler, with the light similarly thrown upon them, disclosed a bow; and next a shower of spray from an appliance such as is used in the House of Commons to render the atmosphere humid was caused to descend through the beam, with the result of showing a white bow—rarely seen in nature. The lecturer, when on his rambles, saw one last Christmas, having previously noted, after a fog, that the air was full of white specks. It was a perfect white bow, and he accounted for its hue by the specks being to small to give off prismatic hues. The theory he demonstrated by the experiments described—the shower from the fine "rose" discovering prismatic hues, and the spray, which descended as a mist, so fine were its particles, forming the white bow. In order to confirm these experiments, if such were wanted, the lecturer requested one of the audience to don the oilskin, and he was rewarded for his trouble by seeing all that had been so elegantly described.—*Medical Press.*

Bibliography.

THE DISSECTOR'S MANUAL.—CLARKE AND LOCKWOOD. (1)

This is a work treating chiefly of methods of dissection, rather than of anatomy proper, although containing considerable useful information on the latter subject; and is intended for use in connection with the regular text-books on anatomy. It is an improvement, in many respects, on previous works of the kind, although not by any means free from errors and faults. The former are scattered numerously throughout the book, and are mainly of a typographical nature, indicative of careless proof-reading; a feature probably more characteristic of medical literature than of any other branch; on page 18, for instance, the male nipple is placed over the fifth intercostal space; the corresponding diagram, however, showing it correctly. A praiseworthy feature of the work is the large proportion of original diagrams, most of them quite effective.

While quite neatly printed, the binding and general "get up" is far from sumptuous and the book cannot be said to be cheap at the price asked for it. L.

ELEMENTS OF HUMAN PHYSIOLOGY. (2)

This little work, constituting one of the Manuals for Students of Medicine, is deserving of the highest praise, and we can hardly conceive how the main facts of this science could have been more clearly or concisely stated. The compass of the work is such as not to allow of any room for theoretical discussion, and the student is not perplexed by reading the, often diverse, views of a number of observers. The main facts are stated as briefly as possible; the style adopted by the author is that most suitable to beginners in the science, in that it is throughout more or less dogmatic, but this is rather an advantage than otherwise. Histological details are entirely omitted, the student being referred for these to the companion work of Klein, which has appeared in the same series. The price of the work is such as to place it within reach of all, while the excellence of its text will certainly secure for it most favorable commendation. J. E.

MANUAL OF PRACTICAL HYGIENE. (3)

This is an American reprint of perhaps the best English work on the subject. More than this, there is an American appendix of one hundred and fifty pages, which is well up to the general tone of the main work. The subject is certainly one that deserves the attention of physicians, and it is just as truly the case that many of our practitioners know little about the subjects herein treated.

The work is well worth reading.

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1 The Dissector's Manual. By W. Bruce-Clarke, M. D., M.B., F.R.S., etc., and Charles Barrett Lockwood, F.R.C.S., etc. Illustrated with 49 engravings. Philadelphia: Henry C. Lea's Son & Co. For sale by Robert Clarke & Co. Small, 12mo. Pp. 390. Price $1.50.

2 By Henry F. Power, F.R.S. For sale by Robert Clarke & Co., Cincinnati. Price $1.50.

3 A Manual of Practical Hygiene. By Edmund A. Parkes, M.D., F.R.S., etc. Edited by F. S. B. Francois De Chaumont, M.D., F.R S., etc. Sixth edition, with an appendix giving the American practice in matters relating to hygiene, prepared by and under the supervision of Frederick N. Owen, Civil and Sanitary Engineer. New York: Wm. Wood & Co., Library of Standard Medical Authors. Volumes II.

Original Articles.

A CASE OF ŒDEMA OF THE LUNGS FROM MITRAL REGURGITATION.—RECOVERY.—WITH NOTES.

By Joseph Eichberg, M.D.,
Professor of Physiology Miami Medical College and Pathologist to the Cincinnati Hospital.

B.H., æt. 47, German, housewife, married, well developed and nourished, family history negative. Admitted to the Hospital May 9th, 1883. Says she has had some cough in Germany, from which country she recently emigrated, arriving in America four weeks ago. Was sea-sick during the voyage. Has been living in very damp, unhealthy quarters ever since her arrival. No history of rheumatism; some cough; bowels now regular, though usually inclined to constipation; tongue heavily furred; no appetite; feet and legs have been œdematous for a week past; slight swelling of the hands; has great pain in the back and epigastric regions; respiration 60; temperature 98.8°; pulse 116; she cannot sleep at night owing to shortness of breath.

May 10. Was very restless last night; respiration 44; temperature 97½°; pulse 100. Physical examination shows dulness over both sides of chest, more marked upon the right side. The movements of the thorax are exaggerated, elevation increased and the left side moves more than the right. Vocal fremitus is the same on both sides, being more marked than normal. The respiratory murmur is heard with equal intensity over both sides, the inspiratory murmur being high pitched, the expiratory somewhat prolonged. Large moist rales. The urine is found to be markedly albuminous, precipitating about one-fourth its volume on the application of heat and nitric acid; reaction acid; specific gravity, 1020; no casts.

Did not sleep well last night owing to dyspnœa. Face is deeply congested, and orthopnœa is most pronounced. Was ordered infus. jaborandi, ℥ss, to be repeated at 11 p.m., if necessary, and ℞. liq. ammon. anisat., gtts. xxv., infus. digitalis, ℥ss, every three hours.

The patient expectorates large quantities of a thin, slightly viscid, serous fluid, tinged with blood; expectoration is easy, and unattended with much effort. The bubbling rales, caused by the passage of inspiratory and expiratory currents through this fluid, are heard at some distance from the patient's bed.

May 12. Perspired freely after the jaborandi tea. Breathing more quietly this morning. For the first time a distinct mitral systolic murmur can be heard at the apex; this is very soft and low-pitched, and escaped detection earlier, owing to the loud rales. The expectoration continues of the same character, with the addition of a small quantity of frothy mucus. Complains of pain in her shoulder and epigastrium. The breathing is labored and it is impossible for the patient to lie down for more than a minute at a time. Respiration 40; pulse 112; temperature 98.5°.

May 13. Pulse 92; no fever; is breathing more quietly; passes urine freely; expectoration less abundant.

May 14. Is improving steadily. Pulse 92; temperature 99. Lies in a half-reclining position, the head being supported by pillows. Treatment with digitalis and liq. ammon. anisat. continued.

May 15. Pnlse 80; temperature 98°. Has pain when she coughs; cough is frequent, expectoration now muco-purulent, the breath sounds are more distant on the right than on the left side. The systolic murmur is heard less distinctly.

P.M. Pulse 76; temperature 98.5°.

May 16. Pulse 96; temperature 98.5°. Did not sleep well.

P.M. Pulse 96; temperature 99°.

May 17. Urine acid; specific gravity 1020: still contains slight amount of albumen. The pulmonary symptoms are gradually disappearing. Now able to lie down, and rests pretty comfortably while in that position. Expectoration less abundant, no longer tinged with blood, and cough not as annoying as before.

May 18. Feet and hands are still swollen. A systolic murmur still heard at the apex.

May 19. General œdema is visibly diminishing; feels much better; appetite good; sleeps well at night; has slight cough; passed 23 oz. of urine in last 24 hours, in addition to that passed at stool.

May 25. Passed 38 oz. of urine in last 24 hours. Oedema of hands and feet entirely disappeared. Urine acid, specific gravity 1012, a trace of albumen. Is able to leave her bed and walk about the ward.

May 31. Discharged well. Mitral murmur present.

I will add to this history, that I have since met the patient, about six months after her discharge from the Hospital, when she informed me that she had been living on a farm, doing her own housework, and that she has not been ill since leaving the house, so that we may consider her as completely cured of her trouble.

It may be questioned whether the heading adopted for this report of the case is the proper one, whether the pulmonary œdema was a secondary factor to the heart trouble, or to the kidney affection from which the patient was evidently suffering. In the absence of any previous signs of renal trouble, with the history of cough and œdema developing simultaneously a week before her admission to the house, from the exposure to a cold and damp air as exciting causes, and from the presence of atheromatous degeneration affecting the radial and temporal arteries, with persistence of the cardiac murmur after total disappearance of all other symptoms, I was led to infer an insufficiency of the mitral valve, depending probably on atheroma; which lesion, under the influence of the unfavorable sanitary conditions, had led to general anasarca, renal congestion and œdema of the lungs.

The œdema of the lungs was, as in most cases, a secondary affection; yet a complication of so serious a nature as to demand prompt and energetic measures for its immediate relief. In many text-books we find no place assigned to this affection in the nosological table, it being taken for granted that pulmonary œdema is always secondary to some other form of disease, and that it may, therefore be briefly discussed under the head of complications; perhaps, too, for this reason, we find comparatively few cases of pulmonary œdema mentioned in the current medical literature.

However, there is no form of acute trouble, not excepting the most virulent, which is, in itself, more imminently dangerous, more distressing to the patient, or, if promptly treated, more generally relieved, than this particular form of disease. Developing often almost instantaneously, it may in the course of less than twenty-four hours, terminate the patient's life; nor is it necessary that some other disease should precede. A case is mentioned in Schmidt's Jahrbücher, Vol. 99, p. 37, of primary acute pulmonary œdema, in which death occurred thirty-six hours after the patient was admitted to the Hospital and about forty-two hours after the first signs of the disease were manifested. The patient, a strong, vigorous, well-built man, about thirty years old, who had been indulging pretty freely in alcoholic drinks, was suddenly seized with signs of pulmonary œdema and died within a short time, the autopsy showing merely the presence of a large amount of fluid in the lungs, without any affection of heart, liver or kidney.

It does not seem difficult to account for cases, in which the œdema of the lungs comes on, after a general anasarca has existed for some time previously, where there has been obvious obstruction to the flow of blood in the venous circulation, from a valvular lesion of the heart, or where the deficient elimination of urinary ingredients causes such alterations in the blood as to lead to a sort of sudden explosion, manifesting itself by the rapid effusion of large amounts of fluid, either into the subcutaneous cellular tissue, into one of the great serous cavities, into the arachnoid cavity, or into the substance of the lungs themselves. Even here the problem is not so simple as might appear, and the purely mechanical view, which presupposes overfilling of the pulmonary capillaries, blood-stasis, and the direct transudation of serum as a consequence of the increased capillary pressure, will be met by most serious objections. In a case of this kind, narrated above, where the pulmonary œdema is primary, and constitutes the only evident lesion, we must seek some other explanation.

As bearing upon this point we have a physiological fact, frequently verified and mentioned in the early part of this century by Edwards, Breschet and Vasseur, that after section of both pneumogastrics, animals very commonly die from œdema of the lungs, showing a relaxation of some nervous influence, which maintained the tone of the vessel walls and thus prevented transudation. This observation was not considered in its relation to the affection in question, until the comparatively recent researches of Cohnheim and Lichtheim tended still more to undermine the mechanical view of its etiology. In considering the physiology of the pneumogastric nerves Schiff has, only recently, again maintained that the changes observed in the lungs after section of both nerves were due to this vaso-motor paralysis. It is true, that the majority of observers are inclined to attribute the death of animals after the experimental section of both vagi to other factors, as to broncho-pneumonia induced by loss of sensibility in the upper part of the respiratory tract, paralysis of the muscular coat of the œsophagus, and the consequent entrance of saliva and particles of food into the substance of the lungs, where these bodies act as irritants, and, eventually, produce the fatal broncho-pneumonia; but all observers admit the altered condition of the circulation as a factor, if not the only one, in hastening death.

The suddenness with which pulmonary œdema often supervenes during the course of acute nephritis, pregnancy, etc., would also seem to point to the influence of some nervous agency, manifesting itself upon the pulmonary circulation. The interesting experiments of Cohnheim have shown that we cannot consider pulmonary œdema simply as a result of hydræmia or hydræmic plethora,(1) since the injection of large quantities of saline solutions into the blood shows that the dilution of the blood and increase of the quantity of fluid in the circulation, while it occasions œdema of the sub-cutaneous cellular tissue and of the abdominal organs, never causes œdema of the lungs. Furthermore, the blood pressure in the pulmonary artery is not modified by the majority of those causes which produce variations in the general arterial pressure; but it rises very perceptibly as soon as the vaso-motor centre in the medulla is irritated.

The œdema, (2) resulting from stasis, in heart disease, which is usually taken as the type of mechanical œdemas, is not simply a phenomenon of transudation across an inert membrane; the experiments of Cohnheim and Lichtheim (of ligating the pulmonary arteries and producing artificial embolisms) clearly prove that when the vessels are healthy and the vaso-motor innervation perfectly normal, the area of the pulmonary circulation may be diminished by one-half or even two-thirds, without any notable increase in the pressure in the pulmonary artery. There, doubtless, must be a certain amount of alteration in the vessel walls to permit of serous transudations taking place. The experiments just narrated show a remarkable power of accommodation, on the part of the pulmonary circulation, to varying volumes of blood, since the quantity usually flowing through the entire circuit, finds a passage through one-third of the usual area, and does so without any particular increase of pulmonary arterial pressure.

Another factor, arguing against the mechanical theory, is the frequent limitation of pulmonary œdema either to one lung, or to limited areas of both lungs. Thus, Rilliet and Barthez found that, in children, in whom pulmonary œdema is by no means uncommon, the majority of cases, showed œdema of the upper lobes only; they base this statement on their personal observations in seventy-three autopsies. Læннec, on the other hand, maintained that in the adult, it was more frequently located in the posterior and lower parts of the lung. I have, myself, made an autopsy, only two weeks ago, in which the only lesion discovered, save a large superficial burn of the left thigh, was an œdema, limited entirely to the right lung, all of which was affected to the same extent. Were pulmonary œdema a purely mechanical phenomenon, we should expect all parts of the circulation to suffer equally; while we can readily explain its localized occurrence through nervous agency, from the frequent analogy presented by the general circulation, where the vessels of one part undergo modifications of caliber, permeability, etc., while the other areas of the circulation are, to all appearances, undisturbed.

A very important addition to our knowledge of the causation of œdema of the lungs has recently been made by Falk, in an article published in Virchow's Archiv, Vol. xci., 1883, under the title of the "Pathogenesis of Pulmonary Oedema." In this publication he reviews thoroughly the theories advanced to explain its occurrence, and calls attention to the fact, that, as late as 1877, Cohnheim stated that we did not know what was the cause of the sudden and extensive transudation, which sometimes occurs. From certain experiments made by Welch in Cohnhem's laboratory in 1878, the latter was led to the conclusion that the pulmonary œdema, which often accompanies the last moments of life, was due to a stasis from obstruction to the flow of blood through the pulmonary vein, which obstruction the right ventricle was unable to overcome. As most potent

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1 Nouveau Dictionnaire. Jaccoud, Editeur.
2 Gauchet, Nouveau Dictionnaire, etc.

cause in the production of œdema in the human subject, they considered a paralysis of the left side of the heart, while the right continues its action. (The unequal contractions of the two sides of the heart were noted by Haller, about the middle of the last century, where, in describing the right side of the heart and more especially the right auricle, he speaks of it as the part "primum vivens, ultimum moriens," showing that he had carefully studied the phenomena of death, in the order in which they affect the body.) Welch verified, experimentally, this conclusion, in mechanical injuries of the heart of the rabbit, the injury usually consisting of digital compression. He found that compression of the left ventricle was followed by pulmonary œdema, whereas similar compression of the right ventricle, with or without that of the left, occasioned no œdema. Cohnheim and Welch consider that, in the human subject, a cause for the entrance of blood into the right side of the heart, after cessation of contraction in the left side, may be found in the high arterial tension of the general circulation, the tone of the vessels and the suction action of the right auricle.

According to S. Mayer, the current toward the right side of the heart is aided by the cerebral anæmia, which comes on as soon as the left side ceases its action. This cerebral anæmia produces irritation of the vaso-motor center, increased blood-pressure and movement of the blood toward the veins. It also induces convulsive respiratory acts and muscular contractions, which increase the rapidity of the venous circulation. The influence of powerful, convulsive muscular contractions in the production of œdema, after cessation of the arterial circulation, was well shown in cases in which, after ligature of the innominate and subclavian arteries, œdema of the lungs developed only in those animals which had not been curarized, the curarized animals, though subjected to the same conditions, never manifesting any signs of œdema.

Now, inasmuch as experiments upon lower animals have shown that interruption of the circulation of the coronary arteries leads to paralysis of the heart, which begins at the left side and involves the right side later, the authors believe that in the human subject a similar disturbance occurs during the last few hours of life, which explanation would account for the comparative frequency of pulmonary œdema, as observed at autopses.

It might be expected that experiments of this kind, made upon the lower animals, could find no application to the circulation in the human body; but the contribution of Falk is especially valuable, since it gives the histories of two cases, where injuries of the heart occurred in young persons, previously in perfect health, the injury being of such a nature as to involve in the one case only the right side, in the other only the left, so that, in each case, the healthy side continued its contraction after the other had already been paralyzed from the traumatic agency.

The following extract of the histories is taken from Schmidt's Jahrbücher, Vol. 197, No. 3:

"A workman, æt. twenty, received several knife wounds and a charge of shot during a mélée in which he was engaged. Most of the shot grains were arrested in the upper arm and chest muscles of the left side, but one had penetrated the fourth intercostal space. The injured man attempted to return home, with the assistance of a friend, immediately after receiving his wounds; could only walk with difficulty for a few steps, when he was overcome, fell to the ground, and expired in fifteen minutes, retaining consciousness up to the moment of his death. The autopsy showed that the shot grain had grazed superficially the border of the upper lobe of the left lung, perforated the pericardium, and buried itself in the wall of the left ventricle without opening the cavity. The projectile was found just beneath the endo-cardium, so that it had traversed nearly the entire thickness of the muscular wall. The wall of the left ventricle was extensively infiltrated with blood, firmly retained in the muscular meshes. The other cavities of the heart contained a small amount of blood-clot. Some blood was found in the pleural and pericardial cavities, and in the anterior mediastinum, from injuries made by the shot in its passage. With the exception of the slight injury mentioned above, both lungs were intact, but both showed pronounced pulmonary œdema.

"Death was not due to hemorrhage; fatal paralysis had evidently affected the left ventricle earlier than the other cardiac cavities, and consequently led to a well-marked œdema of the lungs. In this case the cerebral anæmia, etc., mentioned by Mayer, could have played no part in the production of the œdema, as there were neither loss of consciousness nor muscular contractions to indicate cerebral anæmia."

The second case, interesting mainly by contrast, was that of a railroad employe, who was struck in the chest by the buffer of a car while switching, knocked down, striking the occiput in falling, and soon after picked up, unconscious, bleeding, and with muscular twitchings. The autopsy showed rupture of the right side of the heart, a jagged tear passing through all the thickness of the muscular wall for a distance of four centimeters, narrowing toward the internal surface, where it was not quite as long. The right auricle was filled with blood, and the pericardium and pleura also contained some of this fluid. The lungs showed *no sign of œdema.* The vascularity of the internal organs clearly proved that hemorrhage was not the cause of death, which was owing to paralysis of the heart, affecting first the right ventricle. The continued action of the left had, however, not led to any œdema.

These clinical facts bear out, as fairly and fully as it is possible to do, the theory of Cohnheim and Welch with reference to the arythmical action of the venous and arterial sides of the heart, and they would also account for the production of pulmonary œdema during the last moments of life, where a troubled action of the heart, due perhaps to deficient contraction of the left ventricle, can often be clinically recognized.

There is another feature of interest connected with the subject, which bears more especially upon the treatment. Supposing the fluid to have been effused, and the cause that produced the œdema to be no longer active, the fluid in itself is not a great source of danger. We are familar with the classical expression applied to these cases, of a "patient being drowned in his own fluids," but the drowning would not occur merely from the presence of the fluid. The pulmonary mucous membrane constitutes anatomically, of all the free surfaces in the body, one of the most favorable for absorption. A very delicate basement membrane, covered by a single layer of epithelium, is all that separates the alveolar contents from the rich capilliary plexus ramifying in the septa between the air cells. In the admirable treatise on Physiology by Beclard, we find the following:

"In man it rarely happens that liquids enter the lungs through the trachea; when they do accidentally find entrance, there is, first, a moment of suffocation, but absorption soon relieves the respiratory tract of the part not already expelled by the efforts of coughing. In animals, we may inject very large quantities of water. There follows a short interval of distress, which quickly disappears. Thus we have injected thirty, forty or eighty grammes of liquid into the lungs of dogs and rabbits, through the trachea, and ten and twenty litres of water may be introduced into the lungs of the horse without any danger. It is necessary to inject rapidly, and at one sitting, as much as forty litres to cause the death of the animal from asphyxia."

Comparing the proportionate weight of the lungs in man and in the horse, we can see, other things being equal, that here, too, the presence of a large amount of fluid could not in itself imperil the patient's life, provided the circulation be normal. With stasis of blood, the danger is necessarily great, but a re-establishment of the circulation, with increase of vascular tone, will not only prevent further transudation of fluid, but, by favoring the absorption of that already effused, relieve the lungs of the impediment to full and free aeration of the blood.

This is an important indication for treatment, and it is the action of the drug in these two directions, which establishes the therapeutic value of digitalis in pulmonary œdema. It was also for the purpose of stimulating the circulation that the Liquor Ammon. Anisat, a very convenient and palatable method of administering both ammonia and alcohol, was joined to the Digitalis. The Jaborandi tea was given but twice, on the second day after admission, to secure, if possible, free diaphoresis. Its action was prompt and satisfactory, yet, owing to a slight depressing effect on the circulation, it was then discontinued, as there seemed to be no farther urgent necessity for its use.

[In the discussion which followed the reading of this paper, DR. C. G. COMEGYS said]:

The paper just read is remarkable, not only for the wide and comprehensive treatment of the theme, but for the theme itself;

for in my thought it involves one of the most interesting questions in pathology, namely, the condition under which transudation of the serous element of the blood takes place, whether into the interstices of organs, into serous cavities, or upon the free surfaces of mucous membranes. In regard to the special question in the paper, œdema of the lungs, I have had some experience. Many years ago, while finishing the management of a case of a mild form of scarlatina, I was called hurriedly one morning to see my patient, who was attacked with hurried and oppressed breathing, and was supposed to be dying. On investigation, I found a condition of the middle lobe of the right lung, which I, at first thought, believed to be pneumonia; there were dulness on percussion over a limited space, with tubular breathing, and crepitant rales, with cough; but there was no fever, and the sputa did not represent an inflammatory process; so I concluded and treated it as a localized œdema, pure and simple.

Within the past six months I have met with another case in which an extensive œdema of the right lung was coincident with pleuritic effusion. There was no fever, great dyspnœa, a rapid pulse. Pain existed at the base of the right lung, and extended downward toward the right groin; a slight displacement of the heart leftward; the movements of the chest much the greater on the left side; the intercostal spaces on the right side still, plain; the percussion dull in all the upper region of the right chest, and flat in the base up as high as the fifth rib, and there was no vocal fremitus. No vesicular sounds could be heard anywhere, and tubular breathing existed from base to apex. Now, you know that in pleuritic effusion we expect to get bronchial breathing about the water level, but here was a widespread evidence of it. I could only explain, to myself, the phenomena as indicating extensive œdema of the right lung, with a growing accumulation of fluid, arising from the pleuritic conditions at the base. The more or less adhesion of the lung prevented the complete suppression of the air-sounds temporarily; but eventually the fluid of the pleura increased, compressing the whole lung and extinguished the bronchial breathing; then I made a thoracentesis and withdrew five pints of serofibrinous fluid, with the effect of rapid improvement of the state of my patient. The widespread bronchial breathing in this case was a remarkable feature, and I could find no mention of a similar case except by Niemeyer.

Œdema, and every form of dropsy, always indicate obstruction of the circulation, and this obstruction may be purely mechanical, depending upon anything that by direct pressure acts upon the capillary or venous systems, or .from the backward pressure of the blood owing to lesions of the heart. In dropsies our first investigations are commonly of the heart, the kidney, and the liver.

But the most interesting studies of œdema and dropsies are those in which vital causes exist, or states of the nervous system dependent upon tissue changes, *e. g.*, in inflammations and in other degenerative states; and, on the other hand, where agencies produce excessive enervation, whether acting on the periphery, or centers of the vaso-motor nerves.

It is universally agreed now, that tone, or atony of the arterial system depends on the state of the vasal nerves. There is a normal condition, status, of the vessels by which the blood flows equally and momentarily from the arteries to the veins. Lower this tone and hyperæmia results more or less quickly, and at a certain stage transudation ensues. Flaccidity of the vessels interupts, and even prevents a circulation through them. For the maintenance of this important faculty of the blood vessels there exists a special muscular apparatus whose funtions depend upon the integrity of its related nervous system. While atony disposes to transudation of serum, revived tonicity procures absorption of the effusion. The recognition of this neuro-muscular system carries with it the neuro-vascular areas, and this affords a satisfactory explanation of localized œdema and sweating which were so inexplicable even to so late a writer as the great Andral. No writer of modern days has so fully discussed the influence of the nervous system in the production and prevention of dropsies as the late Prof. Laycock, of Edinburgh; a full summary of which can be found in his communications to the Edinburgh *Medical Journal* in 1866. He reports cases of hemiplegic and paraplegic dropsy, and those due to reflexion from irritation in various parts of the body, *e, g,* from the genito-urinary and cilio-spinal centres; the erratic order of development of anasarca in cardiac and kidney dropsies. He also shows a relation of purpura, as well as œdema and hæmaturia to pathological states of the vasal nervous system.

In an artical "on the pathology and treatment of Asiatic cholera," in Blackman's *Cincinnati Journal of Medicine*, during the prevalence of that disease in this city in 1866, I took the ground that "the poison especially affects the vascular nervous system of the alimentary canal and so impairs the hydrostatic conditions upon which the circulation therein depends, as to produce arrest of the circulation by loss of tonicity in the vessels, whereby ensues a rapid transudation of its watery portions through the immense and superficial capillaries of the intestinal mucous membrane, and bringing on all the fearful train of symptoms leading to collapse, and that our success in treatment depends upon the restoration of tonicity of the vessels, thus arresting the outflow of serous elements."

My position is based upon the impairment and destruction of the nervous influence in special vascular areas, by the cholera poison. Moreover, the value of counter irritation in producing absorbtion in effusions I have long since (the first so far as I know) shown, lies in the irritation of the superficial nerve ends, so as by reflexion through the vasal system to re-excite tonicity and thereby absorbtion of effusion; or, to inhibit hyperæmia in certain areas.

The rapid production of effusion through nervous influence is shown in cases of sudden diarrhea, diuresis and diaphoresis from mental agitations, and œdema occurs just as rapidly, according to Laycock, by the direct local action of a poison on tissues, the nerves, the capillaries and their contained blood. He says that he has seen the leg of a man swell so rapidly after the sting of a wasp that the leg of his trousers had to be ripped up to get it off the limb, and he quotes from a traveller in the wilds of South America, whose horse was bitten by snakes; a complete diapedesis or effusion of blood covered his whole body.

In fine, there is no other way by which we can account for the enormous tumefaction following the bites of venemous animals, than the rapid transudation of the water of the blood into the arcolar tissues of the poisoned members, owing to paresis of the vaso-motor nerves.

Society Reports.

ACADEMY OF MEDICINE.

Meeting of Jan. 14, 1884.

W. W. SEELY, M.D., *Pres't in the Chair.* W. H. WENNING, M.D., *Secretary.*

Hemophilia.

DR. F. FORCHHEIMER reported the following case: A boy, 11 years of age, born in the United States, of Irish parentage, presented all the usual symptoms of a bleeder. When two years old, while playing with a mineral-water bottle, he broke it and cut his tongue, which bled for a week. When three years of age he was accidentally injured in the knee, from which he also bled profusely, taking several months for recovery. After this he had several more attacks of violent hemorrhages following slight lacerations, amounting to about six in all at the time of presentation to the speaker. An examination of the body showed a scar on the forehead, a cicatrix on the tongue, several swellings, some as large as a goose-egg, on the shoulder and arm, left elbow, right buttock, ilium and knee, of a bluish or purple color. All other organs were normal. He complained of pain in the joints, but was otherwise in good health.

As this boy presented all the symptoms of a bleeder, the speaker was most careful to trace the family history, for Eichhorst doubts if these cases can be classed as such unless there be a family history of hemophilia, that is, this tendency to hemorrhage is inherited from the male members of a family but transmitted by the females, or, in other words, the father may be a bleeder and the daughter, though not herself a bleeder, will transmit this diathesis to her male children. In the case in question, however, there was no history of hemophilia; neither the mother's father nor any of the mother's brothers showed this tendency to bleed, nor was there any other bleeder in her family, grandparents included; for we must remember that although the males suffer the females transmit this diathesis. Furthermore, the mother had five children, but none of the others suffered in this way. Consequently this was a case of hemophilia in everything else except heredity. The speaker would admit that hemophilia is a protean form of hereditary affections, yet this tendency to bleed habitually will sometimes spring up without any antecedents. This boy also showed no history of any infectious disease after which this habit might have been established.

Nothing as yet is known as to the cause of this affection; post mortem examinations have not yet given us any clue. Immermann conjectures that these individuals have more than the normal quantity of blood at birth, and are therefore apt to lose more. Acting on this suggestion the speaker requested Dr. Keyt to make a sphygmographic examination of this case, but this gentlemean stated that he found nothing abnormal in the tracings, except a slight retardation of the pulse wave. Consequently this theory was not here sustained.

DISCUSSION.

Dr. Whittaker said that in the absence of any family history of hemophilia in this case, he was most curious to know whether there was not a history of some infectious disease, be it ever so slight a form. We know that this hemorrhagic diathesis is established often after some acute infectious disease as typhoid fever, small pox, scarlet fever, measles, etc. The hemorrhage may occur only in grave cases and end fatally speedily, as in the so-called black small-pox or black measles, which constitutes the gravest form of this affection; but in other cases patients may recover, retaining, however, the hemorrhagic diathesis afterwards. The theory has been advanced that in these cases we also have a micrococcus which enters the blood and produces paralysis of the blood vessels in certain organs. Hemorrhage in these cases take place *per diapedesin;* we know that in different affections of the same organ, as for instance, in the kidney, we have a transudation of the red corpuscles in one and of the white corpuscles in the other form. This constitutes the difference between acute and chronic parenchymatous nephritis, the latter not being a continuance of the former affection, but essentially a different process. The same relationship exists also between catarrhal and croupous pneumonia. More cases of hemorrhagic diathesis develop in this way than by heredity, and the tendency is now therefore to separate this acquired hemorrhagic diathesis from the hereditary hemophilia. The speaker was therefore of the opinion that the case under discussion was not a hemophilia proper, but a hemorrhagic diathesis acquired after some acute infection, which perhaps, as for instance from measles, was so slight as to have escaped the parents memory or not attracted their attention at the time. We cannot eliminate as a cause even a common cold, although we cannot explain its action. Nowadays everything is attributed to germs, and although they have been unmistakably found in many affections their mode of entrance is often very obscure. The speaker knew a case where a young girl about the age of puberty, was afflicted with purpura hemorrhagica so severely that she could not put her feet on the ground. In this case there was also no history of any infectious disease beyond the common process of taking a cold. We need not wonder that these micro-organisms produce emboli in the lower extremities when they are able to penetrate even into the synovial membranes. In fact these germs have a predilection for the serous membranes, as the pericardium, the pleura, meninges, etc. The difference there is that hemophilia is an hereditary affection, whilst the hemorrhagic diathesis depends on some blood poison.

Dr. Stewart narrated an interesting case that he saw while an interne at the Cincinnati Hospital. A girl, primipara, who soon expected to be delivered, presented the history of a hemorrhagic diathesis, both in herself and her mother. As she was apt to bleed freely after slight injuries it was feared that violent hemorrhage might also occur at her delivery and all precautionary measures were therefore taken to combat such an event. When the time for delivery came she, unfortunately, did not bleed at all. In this case, therefore, although there were undoubtedly some lacerations in the genital tract, they were not followed by bleeding. No prophylaxis was resorted to in the way of treatment.

A few points the speaker would like to have eludicated. The first was a question of treatment. Henoch at first suggested ergotine as a remedy, and claimed to have seen good results from it, but in the last edition of his work on "Diseases of Children" he retracts this claim and says ergot has no value at all. The same inefficiency is said to pertain to other agents. Förster (in Gerhardt's Handbuch der Kinderkrankheiten) throws out the question if this diathesis might not be due to a change in the vascular system of the child, owing to pressure occasioned by delayed delivery; he himself, however, does not answer this question.

There is also a discrepancy among authors as to the condition of the blood; some say that in hemophiles the blood contains more fibrin, whilst others hold that it is unusually rich both in fibrine and blood corpuscles in the beginning, but that these diminish after protracted bleeding.

DR. FORCHHEIMER remarked that in reporting his case it was his object not to discuss hemophilia as regards its cause and pathology—for so far all pathologists have failed—but to bring out the experience of others, especially as regards the hereditary tendency of hemophilia. The first gentleman that opened the discussion suggested that the speaker's case was not one of hemophilia but a hemorrhagic diathesis afterwards acquired. He would answer that it presented all the characteristics of hemophilia *except* heredity. It is wrong to jumble all the cases together in which hemorrhage may follow a slight provocation. Hemophilia is characteristic; it is born and dies with a patient, whilst all other conditions of a similar nature are transitory and a patient does not preserve these characteristics. If a patient should die of purpura hemorrhagica it is not said that he was born a bleeder. No relationship exists between hemophilia and the hemorrhagic diathesis following acute infectious diseases. A morbus maculosus Werlhofii, or, as it is more commonly called in this country, purpura hemorrhagica, will develop after an acute infectious disease, but it is by no means for this reason to be included under hemophilia. The speaker reported his case because it showed the peculiarity of not being hereditary and still being a case of hemophilia, as was readily seen when the symptoms were reviewed: the history of successive violent hemorrhages from early infancy, the characteristic pain in the joints, etc. He was not alone in reporting such an anomaly; Immermann (in Ziemssen's Cyclopedia) and Grandidier have reported the same class of cases, and yet nobody would suspect that they were instances of morbus maculosus Werlhofii (purpura hemorrhagica). They are different diseases, one is permanent the other transitory.

He would endeavor to answer a few questions proposed by the last gentleman. As far as treatment is concerned nothing has proven satisfactory, and in his own cases it amounted to nothing also. The blood is said to be normal with perhaps a little more salt in it than usual; after a while it becomes thinner. Immermann suggested the ingenious theory that these persons bleed because they have more than the normal amount of blood. An examination of the speaker's case did not verify this view. There was nothing abnormal except a retardation of pulse wave. He did not know what this was due to; perhaps a thinness of the bloodvessels or thinness of heart.

DR. WHITTAKER replied that he did not understand the previous gentleman's logic. We are told that hemophilia is characterized by its being distinctly transmitted by birth, yet in the case before us, it was not inherited.

(The President asked for the definition of hemorrhagic diathesis.)

The speaker continued: "It is a disease which is characterized by inevitable hemorrage following any solution of continuity, or occurring independently of it." It is also accompanied, as a rulé, by pain in the joints, which led to the view that the disease is developed from micrococci, just as we have pain in the joints in rheumatism, in peliosis, in peri- or endo-carditis or meningitis, which we know to be the last links in rheumatism. The serous membranes particularly invite the entrance of microorganisms. Hemorrhage and pain in the joints are characteristics of all these cases. Hemophilia is only to be distinguished from a hemorrhagic diathesis from other causes in that it is hereditary. It is only transmitted by mothers of families in which the males are bleeders. This fact is so well recognized that a law has been proposed and discussed in Prussia, which is to forbid all the women—not the men, for they do not transmit the disease—to marry, because their offspring, in the male line, may be bleeders.

The speaker had seen no case of hemophilia in this country; in fact, he doubted if this affection existed here, although he had witnessed a number of cases of hemorrhagic diathesis. They often follow after acute infectious maladies. In his opinion the two conditions should be kept apart by the distinction of heredity.

DR. FORCHHEIMER replied that he reported his case because it was one of hemophilia without heredity. He did not maintain that heredity was an essential characteristic of hemophilia. Eichorst says spontaneous hemorrhages may occur. The speaker said his case was one of hemophilia because the child bled almost from birth. It is not said that it must bleed already from the cutting of the umbilical cord, but it bled freely already from the second year of life. He did not, therefore, claim anything which is not also confirmed by other authors. The boy was a bleeder simply because he had shown it in all instances.

The speaker regarded hemophilia as coming under the head of hemorrhagic diathesis, but not the reverse. He also questioned whether the pain in the joints, which is caused by the effusion of blood into them, is present in all instances of so-called hemorrhagic diathesis, but he did know that hemorrhage into the joints takes place in hemophilia. He had at present a case of morbus macul. W. without pain in the joints. As a rule, this disease lasts for a time, at the end of which the tendency to bleed also ceases, contrary to hemophilia, where the least wound causes enormous hemorrhage for all time. The speaker had a patient, an habitual bleeder, who has no other symptoms except pain in the joints, and no heredity. In morbus maculosus the prognosis is good.

Dr. Zenner remarked that if it be true that heredity is a *sine qua non* for hemophilia, we have probably a disease in which we have to deal with direct tissue changes in the blood vessels. It would be, therefore, interesting to know that in one affection, at least, this transmission of tissue changes is positive. which, though it is not understood how it extends from generation to generation, might give us a clue for study in other affections. Perhaps it is a weakness of the circulatory vessels, which may occur without any hereditary influence. A hemorrhagic effusion after certain infectious diseases is readily understood, being due either to direct poisoning, or to the presence of a minute organism, but it is doubtful if this be true of Dr. Forchheimer's case.

Virchow, in a recent review of the theory of infection, says micro-organisms may set in in two ways, one being by infection, the other not. In anthrax, for instance, organisms are carried into the system, and there produce some chemical changes which directly poison the system. These are infectious diseases. while others, though they cause great changes, are local diseases, because the organisms have been carried to the different parts, and there set up a local change. If due to the presence of an organism, is hemophilia due to a general infection, or to some baciilus, which sets up some local change? The change is in the general system, not temporary, but permanent. Hemophilia does not, however, resemble authrax, because we cannot conceive of a local disease involving every part of the vascular system without visible changes. He did not believe that they paralyzed the vasomotor system. Consequently none of these theories apply to hemophilia.

Dr. Whittaker replied that the presence of minute organisms offers the most plausible explanation of the paralysis of the blood-vessel walls, which permits a diapedesis of the blood copuscles. We know that in every case where blood escapes per diapedesin, the blood corpuscles escape through the vessels. For instance, in parenchymatous nephritis, experiments have shown that in the two forms one is distinguished by the presence of blood corpuscles, the other not.

The quality and quantity of the blood, the influence of the nervous system, etc., have all been tried as factors, but they were found wanting. We can not say that the micro-organisms are transmitted directly from mother to offspring, though many acute infectious diseases are run through in intra-uterine life. An acute infectious malady is not always marked, and many diseases, as measles, whooping cough, etc., unless they present alarming symptoms, are not noticed frequently by the poorer classes. An infection is the only explanation we can offer when the disease is not inherited. Some cases are transitory, others permanent. The only difference is that one is inherited—hemophilia, and the other not—hemorrhagic diathesis.

The President concluded that the reason why he asked for the definition of the hemorrhagic diathesis was because he once had a case of hemorrhage into the vitreous chamber without any hemorrhagic diathesis. As the patient had had no other hemorrhage, he attributed this anomaly to malaria.

A New England Cremation Society was organized in Boston recently.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Thursday Evening, Jan. 24, 1884.

The Vice-President, Dr. Shakespeare, in the Chair.

General Tuberculosis of Serous Membranes. Exhibited by Dr. W. E. Hughes.

Caroline K., white, æt. seventeen, was admitted to the University Hospital, November 3, 1883. There was a history of a articular rheumatism in father and mother. The family was free from consumption. She had been perfectly well till eight months previous, when she developed symptoms of acute pleurisy. The acute symptoms subsided after a few days, and with the exception of slight dyspnœa and hacking cough, she soon felt as well as before. Two months afterward she had pains, swelling, and redness, involving successively all the large joints of the body, lasting ten weeks, and disappearing completely. From the onset of the articular disease her strength and flesh failed steadily, appetite grew poor, and digestion bad; dyspnœa and cough increased slightly. Five weeks before admission she began to have occasional sharp pains through the abdomen, and noticed that the abdomen was gradually enlarging. When first examined she was pale, somewhat emaciated, had a hacking cough, with mucous expectoration, slight and constant; dyspnœa very little; increased on exertion. That night the pleural cavity was filled with fluid up to the third rib. The abdomen was much distended with fluid; free to move. The heart was normal in size, but there was a strong, mitral, systolic murmur. She had an irregular hectic fever. Under treatment the pleural effusion rapidly subsided, but in the abdomen less rapidly. One month after admission symptoms of meningitis developed, and examination of the eye-ground showed descending neuritis. A week afterward a double pericardial friction-sound developed over the sternum opposite the third intercostal space. She died December 16th.

Autopsy—seven hours after death—thorax, right pleural cavity completely obliterated by organized plastic adhesions; in the adhesions numerous gray miliary tubercles were found. The right lung congested, compressed, and contains scattered miliary tubercles; left lung contains a few miliary tubercles; pleura normal; heart normal in size; marked thickening of mitral leaflets, with incompetency. In the pericardium, at upper part of anterior surface of left auricle and over base of aorta, were a few small, grayish granulations, apparently tubercular. Peritoneal cavity contains about two quarts of straw-colored serum. Peritoneum everywhere thickly studded with gray miliary tubercles. Old peritoneal adhesions in several parts of abdomen, notably in left lumbar region and around pancreas. These old adhesions are filled with miliary tubercles. Lymphatic glands moderately enlarged; not cheesy. Numerous gray miliary tubercles in membranes of base of brain, especially in sylvian fissures. No tubercles in any organs except the lungs.

Secondary Tuberculosis of the Bladder, Ureter, Kidney, and Supra-renal Body. Exhibited by Dr. W. E. Hughes.

Ida G., white, æt. nineteen, had suffered with the usual symptoms of phthisis for about nine months before she came under observation. Her father and a sister had died of phthisis, and she had always taken cold on the slightest exposure. When first seen she was standing leaning over the back of a chair, suffering the most agonizing pain in the region of the bladder. Desire to urinate was constant and irresistible, and the passage of the small quantities of urine gave rise to such suffering that she would shriek and almost faint. Till two weeks previous there had been no trouble with the urine; then the pain began, slight at first, and became gradually more and more severe. She had passed, frequently, masses of clotted blood with great suffering. Under anodynes the pain became less, and an examination of the bladder showed it to be much contracted, with roughened walls. Examination also brought on a slight hemorrhage. The urine contained nothing abnormal except blood and pus. Under the continued use of anodynes, the pain decreased and finally disappeared. After the cessation of pain, the blood disappeared from the urine, but was replaced about two months afterward by a small quantity of albumen and a few granular tube casts. About this time œdema began in the ankles, and gradually involved the whole of the lower extremities. The tissues finally became so distended that her legs were utterly useless. The urine never contained more than one-tenth of its bulk of albumen, and the tube casts were always few in number. She died of asthenia four months after coming under observation.

Autopsy—fourteen hours after death—extensive degeneration of lungs. The liver was extremely fatty, being of a uniformly yellow color, with no distinction whatever between its lobules. The bladder was small and firmly contracted, its walls thickened, its inner surface roughened, rugose, papillomatous, its mucous membrane thickly studded with tubercle granulations. The substance of the right kidney contained numerous gray miliary tubercles, its pelvis was dilated and presenting the same appearance as the inner surface of the bladder. The corresponding ureter was as thick as an index finger, its walls firm, hard, and infiltrated with tubercular deposit, its mucous membrane in the same condition as that of the pelvis of the kidney. The right supra-renal body retained none of its original structure; it was a mass of cheesy tubercles, firmly adherent to the kidney. The left kidney, as well as the other organs, was normal.

Dr. Formad had examined these specimens for bacilli. None were found in the first case, although the post mortem was made within about two hours after death, and frozen sections at once cut. The lymph glands were also examined, as well as the lungs, without detecting any bacilli. In Dr. Hughes' second case the lymph glands, as well as the perivascular spaces, were crowded with colonies of bacilli. In the first case was an absolutely primary tuberculosis of the serous membranes, with no bacilli; while in the second *ulceration* was present with lymph-gland bacilli, as well as invasion of other tissues. This would indicate that bacilli and general tuberculosis most commonly result from surface troubles, *i. e.*, the mucous membrane of the lungs, intestines, etc., when affected by tuberculosis. In the case of tuberculosis of the serous membranes there was no history of a strumous diathesis, and no general tuberculosis ensued. From the careful study of ten similar cases, Dr. Formad was inclined to think that serous tuberculosis was the only form of the disease to which *non-strumous* individuals were liable.

Dr. Shakespeare said that he had been struck with the fact that the third case, with a family history of carcinoma, apparently developed tuberculosis after empyema, and that post mortem carcinoma of the uterus was found. An antagonism between these two diseases has been long believed in, but of late has been questioned, since a careful scrutiny of statistics has shown them to be more commonly associated than is generally believed. Dr. Shakespeare then called attention to the fact that in most cases a family history was obtained, running back for only one generation, yet there being no statement as to what degree the investigations had been carried. Statistics drawn from such sources must be unreliable, as Dr. Formad, among others, has called attention to the fact that tuberculosis can, and often does, skip one generation. There were some points in the history of the case of tuberculosis of the serous membranes which suggested that the primary trouble might have arisen in the joints, which are closely analagous to serous sacs, if they are not actually such. Dr. Hughes said that in the patient, where he had stated that the family history was good, he had gone back for three generations directly and collaterally.

Dr. Musser asked what was the effect of repeated tappings on the development of tubercle, as some clinical teachers are now advising against such operations in simple pleurisies, advocating, in preference, other remedies to induce rapid absorption of the effusion.

Dr. J. C. Wilson thought this question could only be answered by an analysis of a large number of cases specially examined for this purpose.

Dr. Shakespeare, having been informed by Dr. Hughes that the so-called tubercles in the case of carcinoma had not been examined microscopically, suggested the reference of this specimen to the Committee on Morbid Growths, since it might really be only a case of miliary carcinosis and not tubercle. With reference to the influence of tapping on the development of tubercle, it was shown that it most frequently developed where no tapping had been performed, but where rapid resorption had taken place. Pathological experiment has shown with what ease any inoccuous substance, even simple traumatisms, will set up tuberculosis of the serous membranes. If, then, a general tuberculosis can result from tubercle of serous membranes — a point not settled as yet by experimenters—repeated tappings, with perhaps the coincident introduction of deleterious substances, might account for the alleged fact mentioned by Dr. Musser.

PROCEEDINGS OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Meeting of January 2d, 1884.

A Further Note on the Specific Treatment of Enteric Fever.

Dr. Jas. C. Wilson, Physician to the Jefferson Medical College Hospital, and to the Philadelphia Hospital, read the following paper on the above subject:

A year ago I read before the College a brief paper "On the Management of Enteric Fever" according to a plan based upon the so-called specific treatment. That communication, which will be found in the sixth volume of the third series of the *Transactions*, beginning on page 221, was the outcome of the clinical study of a very limited series of cases in which the plan referred to had been fully carried out. The object of the present communication is to lay before you the results of the plan as employed during another year in the management of a second series of cases.

Before presenting to your attention the facts relating to this second series of cases, permit me to state that the plan of treatment consists in a close adherence to the so-called rational or expectant method of treatment in all its details, plus the systematic use of purgative doses of calomel in the early days of the attack, and of iodine and carbolic acid throughout its whole course. These drugs are administered chiefly with the intention of realizing their effects in diminishing the activity of the supposed specific cause of the disease and the treatment is therefore properly designated a specific treatment in contradistinction to the rational or expectant treatment in the one hand and to all forms of symptomatic treatment on the other.

The first series of cases numbered sixteen, of which all recovered.

The second series, treated during the year 1883, by a curious coincidence, also numbered sixteen, of which two died.

Of these, seven were severe, the temperature reaching or exceeding 104° F. (40° C.)

Of these seven severe cases, the two which terminated fatally were colored men, admitted to the wards of the Philadelphia Hospital late in the attack and in a state of profound stupor. One, aged 27 years, died on the seventh day after admission; the other, aged 47 years, on the twenty-first day. The latter passed albuminous urine, and presented after death the lesions of interstitial nephritis in addition to those of enteric fever.

Two non-fatal cases were attended by profuse and repeated intestinal hemorrhage in the third week. One of these, a man aged 20, had during convalescence, necrosis of the mastoid process of the right temporal bone. One case of great severity occurred in a man aged 62 years, whose convalescence was, however, rapid and without sequelæ.

No instance of relapse was observed.

The characteristic eruption was present in all of the severe cases. It was not discovered in four of the mild cases.

The average duration of the five severe cases in which recovery took place was about thirty-two days; that of the nine mild or medium cases was about twenty-four days.

Of the whole number, six were treated in hospital and ten in private practice.

It is worthy of note that the convalescence in these cases was rapid, as a rule without complication, and that no instance of relapse occurred. An analysis of the combined series shows as a result of this treatment in my hands thirty-two cases, sixteen treated in hospital, sixteen in private practice, with two deaths (cases admitted to hospital in profound stupor.) The death-rate is therefore 6.25 per cent. I refrain from citing, for comparison, the familiar statistics of the death-rate of enteric fever. We have come to regard it as ranging from 15 to 20 per cent., with a more favorable showing in private than in hospital practice. But Welch, from the statistics of the medical service of the British army, has recently shown it to exceed 33.3 per cent., and Dr. Francis Delafield, in an important statistical paper on this fever as it occurs in New York (see *Medical News*, Nov. 24, 1883), has shown that the death-rate in hospital cases, though varying in different years, ranges between 20 per cent. as the lowest, and 30 per cent. as the highest limit.

DISCUSSION.

Dr. Arthur V. Meigs said: This so-called "Specific Treatment of Typhoid

Fever" appears to me a mistaken plan founded upon an untenable theory. We are asked in the first place to assume that tyhoid fever has for its cause a germ whose very existence is not known, and second that calomel, iodine, and carbolic acid given by the mouth will meet with and destroy this imaginary germ. Neither of these assumptions can be considered proved. Why do we not give the same drugs in cases of scarlet fever, measles, or smallpox, for there is as good reason to believe them to originate from germs, and that the same germicides would be effective for their destruction? I should not be so outspoken in my denunciation of this method of treatment if it could be looked upon as harmless, but it seems capable, on the contrary, of much mischief. Whatever may be the effect of such large doses of iodine and carbolic acid, we were almost all taught and have up to this time believed the effect of purges given in the earlier stages of typhoid fever to be most disastrous. Dr. Wilson himself, I doubt not, was taught, as I was, when a resident physician in the Pennsylvania Hospital, that even a teaspoonful of castor oil given to a patient in the early stage of the fever might cause a diarrhea which would continue throughout the attack. Is there no reason for this belief, and is not calomel capable of producing the same effect? Dr. Wilson says the treatment of typhoid fever is at sea; to me it seems on the contrary that there is no disease in regard to the treatment of which there is such general agreement. Now many men in this room treat cases of scarlet fever alike, and how many treat typhoid fever differently? The present treatment of the disease is the treatment of common sense; so far as the local lesion is concerned we treat it as a surgeon treats a wound, we try to give the part rest, and avoid all causes of irritation, and nature thus is given time and opportunity to heal the ulcers. We treat symptoms as they arise, and support the strength of the patient with food and water, and stimulants if necessary, through the four or six weeks during which fever is burning his tissues until he is reduced almost to a skeleton. Now can purging with calomel or administering such nauseous drugs as carbolic acid and iodine conduce to this result? Will the patient be any better able to go through his weeks of fever? Does Dr. Wilson show that the method shortens the duration of the disease one day or one hour? It appears like asking us to go back to the days of ignorance, which existed before Stokes and Graves and the great men of that day taught us how to treat the disease. Years ago Stokes put in a few words the common sense view of the question. It must be remembered that at that time the distinction between typhus and typhoid fevers was not drawn. He says: "I confess that it was not until several years after I commenced practice that I became fully aware of the erroneousness of what is termed the anatomical theory of disease; and I feel certain, humiliating though the confession may be, that the fear of stimulants in fever with which I was imbued, was the means of my losing many patients whose lives would have been saved, had I trusted less to the doctrine of inflammation, and more to the lessons of experience, given us by men who observed and wrote before the times of Bichat or of Hunter.

"The hospital physician will be frequently asked by students to state the principle on which he administers wine in fever. Typhus fever is a disease which has a tendency to a spontaneous and favorable termination, but one in the course of which the powers of life are attacked by a most malignant influence. By wine, food, and other stimulants we support nature, until the struggle is past, so that, to use the words of an ancient author, which embody a more profound principle than appears at first sight, we 'cure the patient by preventing him from dying;' that is to say, we prolong his existence until the natural and favorable termination of the disease arrives. We do not allow our patients to die of exhaustion, and bearing in mind the depressing influence they have to struggle with, we give stimulants at the proper time and with a bold hand. We give our patients an artificial life till the period arrives when nature and health resume their sway."

If we are asked to try the method because it lessens the death-rate; I think that can hardly yet be considered as proved. The number of cases recorded by Dr. Wilson is yet too small to prove any point. In looking over some old lectures of my father, the late Dr. J. Forsyth Meigs, delivered about the year 1850, I found that he reported a series of sixty-nine cases treated in private practice and only five deaths. This makes a death-rate of 7.24 per cent., while Dr. Wilson's series of thirty-two cases and two deaths makes the death-rate 6.21 per cent. The number of cases treated by him is less than half. The cases reported by Dr. Meigs were treated when bleeding and purging were still customary, and even his results are but little inferior to those of Dr. Wilson, and both are infinitely better than any published hospital statistics. In the first thirty-nine of Dr. Meigs' series of cases he had four deaths; but in the thirty coming afterwards only one death occurred. These results bear comparison with Dr. Wilson's, particularly the second series, which came after the first, and when bleeding and purging were becoming less the medical fashion of the day, and the expectant plan was more pursued. A comparison of the first and second series of cases shows how little reliance is to be placed upon deductions drawn from the treatment of such small numbers; for in the first the death-rate was 10.25 per cent., while in the second it was only 3.33 per cent. An examination of such records as I possess enables me to recall twenty-seven cases I have treated in private practice. Of these, two died, making a death-rate of 7.40 per cent. One of the deaths was of a boy who was taken sick in a house where there were eight or nine cases of diphtheria and diphtheritic sore-throats, almost every one living in the house at the time being more or less affected. The cause being a foul, leaky brick drain which ran through the cellar. The other death was of a man, about fifty years of age, in whom the diagnosis was not made until about the end of the second week of the disease. During the first two weeks he was in and out of bed, and made at least two journeys of sixty or seventy miles by rail, and finally died of perforation of the bowel and peritonitis, which were found at a post mortem examination. If the total number of cases reported by Dr. Meigs and my own be considered together, there were treated in private practice ninety-six cases with seven deaths, making an average death-rate of 7.29 per cent. Not a bad showing for the old treatment, when it is considered that typhoid fever has always been looked upon as one of the most fatal of all diseases.

Every Man having his own Journal.—*The Æsclepiad* is the title of a new quarterly, published, and written entirely by Dr. B. W. Richardson.

CLINICAL SOCIETY OF LONDON.

Friday, January 25th, 1884.

Sir Andrew Clark, Bart., M.D., F.R.C.P., President, in the chair.

Mr. Walker Rivington on

An Unusual form of Dislocation of the Hip.

On August 5th, 1883, a man, æt, 34, was standing with his legs apart and his body bent forwards when some large packing cases fell upon him, striking him on the right side of the head and right hip. The head of the right femur was displaced from the acetabulum. The symptoms were complete immobility of the thigh, which was slightly flexed; abduction and commencing inversion of the whole limb, and shortening to the extent of ⅜ths of an inch. Under ether it was readily reduced on the first employment of manipulation, the head entering the acetabulm with a click, and with slight grating. The dislocation differed from the ordinary sciate form in the abduction, slight inversion, and less amount of shortening; and it did not resemble some published instances of anomalous displacement. It might best be described, perhaps, as the first stage of a sciatic displacement. On September 11, the patient, being able to walk, left the hospital cured.

Mr. Walker Rivington on case of

Wound of External Carotid by a Stab in the Parotid region; Recurrent Attacks of Hemorrhage; Temporary Ligature of the Carotid Trunk, Combined with Ligature of the Exernal Carotid at the Seat of Injury.

The patient, a carman, æt 31, was stabbed by his wife in the left parotid region on December 24th, 1882. Hæmorrhage had ceased before his admission into the London Hospital, and his wounds were brought together by sutures. On December 30th and 31st some hæmorrhage occurred, but it was readily arrested by pressure. Swelling of the left side of the face and erysipelas supervened, necessitating incision and the insertion of drainage tubes. He went on well till Monday the 15th of January, 1883, when severe hæmorrhage occurred, arrested by pressure with a sponge and bandage. On the following morning he was seen by Mr. Rivington. On removing the bandage and compress blood gushed out in a strong jet from a wound over the position of the external carotid behind the jaw. Pressure stopped the hæmorrhage. To avoid loss of blood during the process of securing the wounded vessel Mr Rivington cut down upon the carotid above the ordinary seat of bifurcation of the common carotid, and passing a cat-gut ligature round one of the carotid trunks (either the common or external carotid) tied it so as to stop the current without dividing the coats of the vessel. On removing the pressure from the wounded external carotid only a languid stream issued, and the vessel was tied above and below the opening. The ligature round the main trunk was then untied, but left under the vessel and the wound was closed, the end of the ligature passing out between its lips. No more hæmorrhage occurred, and the patient made a good recovery. The cat-gut ligature dissolved and came away from under the main trunk spontaneously on the sixth day after operation.

Dr. COUPLAND observed that a very similar case had been reported in a former volume of the Society's Transactions, and that the patient was present in the ante-room for examination.

Dr. DONALD HOOD on a case of

Angina Pectoris in which the Anginous Symptoms were Rapidly followed by Pericardial Effusion.

The history of the case was briefly as follows:—A gentleman, æt. 65, resting on a sofa, apparently, was suddenly roused by the window-curtains being on fire. He quickly jumped up to extinguish the flames, and within half an hour of this exertion he was suddenly seized with severe heart cramp. Seen shortly afterwards by Dr. Hood he was noticed as being blanched, barely able to speak, heart irregular and fluttering, pulse of peculiarly low tension, with agonising cramp-like pain over cardiac region. Hot stimulating applications, brandy, ether and opium, were used freely, and the patient slowly lost the pain, and a general improvement of the circulation took place. Twenty-four hours after the commencement of the attack a soft pericardial soufle was noticed, within a few hours it had deepened into a distinct rub. From this time during the succeeding ten days the case assumed all the characters of one of pericardial effusion, the amount of fluid being but moderate, and apparently completely absorbed within the ten days. A fortnight later the patient was found to have a systolic apex murmur and symptoms of incompetency of the mitral valve rapidly developed. The patient died four months later from syncope, and at the time of death was the subject of cardiac dropsy. No post-mortem could be obtained. Dr. Hood suggested as a possible explanation of the primary attack with its subsequent train of symptoms that the patient was the subject of some fibroid degeneration of the heart. Roused from sleep by the flames, his alarm and exertions caused a sudden distension of the heart cavities which possibly gave rise to some lesion of the visceral layer of pericardium and so started the pericarditis. In support of this hypothesis Dr. Hood called attention to the series of cases of fibroid disease of the heart, collected and published by the late Dr. Fagge in the 25th volume of the Transactions of the Pathological Society, and stated that in more than half of these cases the patients were found to have been the subjects of pericarditis. He further suggested that fibroid degeneration of the heart should be looked upon as a possible factor in those cases of pericardial effusion in which it was difficult to explain the cause of the pericarditis.

Dr. BURNEY YEO asked if the patient had shown any signs of renal changes, or of arterial degeneration?

Dr. DE HAVILLAND HALL narrated the history of a patient who, soon after quarrelling with his son, was seized with pain in the præcordium, and when seen by Dr. Hall the spasm was of a severe character, accompanied with frequent and feeble pulse; there was no murmur audible, and the temperature was not raised. The case clearly looked like angina, and Dr. Hall prescribed diffusible stimulants, with a subcutaneous injection of morphia. Two days later the patient was visited again, when it was asserted that, though better on the intervening day, pain was still experienced. At this time friction sounds were heard over the heart, and death occured five days afterwards. Dr. Hall considered that this case was plainly one of angina succeeded by pericarditis forty-eight hours after the attack.

Dr. GLOVER asked if Dr. Hall had noticed any elevation of temperature in the later stages of his case; and, in reply,

Dr. HALL said the highest recorded figure was 99° or 100°.

Sir ANDREW CLARK expressed curiosity to learn why Dr. Hood had not resorted to nitro-glycerine as a remedy in the treatment of his case. He also desired to known what degree of temperature had been reached in it, and in connection with this question drew attention of the fact that many cases of pericariditis go through their course without any exaltion in this respect.

Dr. Duckworth suggested that pericarditis might pass unrecognised under the description of angina pectoris. He had seen cases in which the former suceeded on the latter, but he recognized the existence of a pseudo-angina, especially when disease of the aortic valves existed, and thought Dr. Hood's case might possibly be of such a nature. Few physicians had seen fatal cases of angina, and for each such there were many in which the pain did not terminate in death, being of the character of an acute temporary neuralgia.

Dr. Angel Money asked how Dr. Hood's case differed from one of ordinary pericarditis?

Sir Andrew Clark replied that Dr. Hood had not, he thought, introduced the case as having any special fratures as one of pericarditis, but as one of pericarditis ensuing on angina.

Dr. Ewart observed that is was a question how far analogous symptoms to those of angina might be caused by dilatation of the heart and large vessels. He had met with cases in which cardiac pain was brought on by excitement, as in a case mentioned. Deposition of fibrin resulting from injury of such an organ might produce an amount of irritation equal to setting up pericarditis, and in an enlarged aorta, or a ruptured aneurism, the antecedent conditions necessary might be found.

Mr. Coode Adams made the suggestion that fatty degeneration of the heart might bring about the result described; extravasation through a rent in one such case had been described.

Dr. Hood explained, in answer to Sir Andrew Clark's query that he saw the case on a Sunday night, and was unable to obtain nitro-glycerine to administer. Temperature was normal throughout. The urine was of good density, and there was no arterial degeneration.

Dr. De Havilland Hall on a case of *Empyma followed by Abscess in the Brain.* S. N., æt. 19, a pupil teacher, admitted into the Westminster Hospital, August 20th, 1883. The patient had empyema following an attack of acute pleurisy three years previously. She had been tapped, and a drainage-tube left in. When first seen by Dr. Hall at Christmas, 1881, she was suffering from hectic in consequence of imperfect flow of pus; immediately, however, that perfect drainage was established, her condition improved, and for a year she was able to resume her duties. The reason of her last admission into hospital was the hope that the chest had sufficiently fallen in to allow of the withdrawal of the drainage tube, but when this was done the evening rise of temperature which occurred showed that pus was accumulating, and the tube had again to be introduced. Just as the patient was about to return home she began to complain of headache; this was followed by vomiting. On the 11th day from the onset of cerebral symptoms the temperature, which previously had been subnormal, began to rise. There were slight convulsions on the left side of trunk and face, the drowsiness became more profound, and she died comatose. Shortly before death there was a copious purulent discharge from the left nostril. At the post-mortem examination, which was made by Dr. Hebb, the pleura was found extremely dense, a cavity capable of containing several ounces of fluid lay between the opposing surfaces, elsewhere the parietal and visceral pleuræ were united. On removing the brain, an abscess in the left posterior lobe burst; no other pathological appearance was detected. The abscess, spherical in shape, and about the size of a hen's egg, lay in the white matter, the walls were nearly an eighth of an inch thick, hard, and of a purplish brown colour; the contents were a thick greenish pus, which had an offensive odour. In commenting on this case Dr. Hall insisted on the importance of having a double opening in cases of empyema, the lower one being made, if possible, in the eleventh interspace—a drainage-tube being passed through the two openings, and the ends tied together. By this means perfect drainage is attained. He claimed the case under consideration as a success, so far as the empyema was concerned, as the treatment was so far beneficial that the patient was able to resume her duties; whereas, prior to the double opening being made, she was much exhausted by the constant suppuration, and consequent hectic. Turning to the question of cerebral abscess, Dr. Hall mentioned some cases in which this disease had followed empyema. In his case thick abscess wall pointed to its being of many months duration; the absence of symptoms till towards the end being explained by the seat of the lesion being at a distance from the motor and sensory centres, which apparently were not compressed. The two symptoms which ushered in the terminal period, viz., headache and vomiting were those commonly observed in such cases. He was unable to give any explanation of the discharge of pus noticed from the left nostril shortly before death. At the autopsy in spite of careful search, no appearance of suppuration was detected at the base of the brain, and there was no communication between the abscess and the nose.

Dr. Burney Yeo expressed himself strongly in favor of Sir. Joseph Lister's operation in cases of chronic empyema, whereby a free incision is made and a portion of the seventh rib excised in the axilla. In his own practice this plan produced good results, and three cases were instanced by Dr. Yeo in proof. He wished to know how Dr. Hall regarded the operation. German authorities selected the fifth interspace in front as the point of operation, because of difficulty arising in old-standing cases from the thickened deposits found in the axillary region.

Mr. Parker pointed out that no particular spot could be named as suitable in all cases, and that empyema should be treated where found. In empyema of the whole chest, however, he preferred Dr. Yeo's plan to that indicated by Dr. Hall. Had the case narrated by the latter been under his care, he would have been dissatisfied with any less result than a cure, which he thought ought to have been obtained in it. When operating in such cases he made a single opening, into which he inserted two drainage tubes to promote free discharge of pus. No portion of rib need be removed if the opening were made large enough. He found good results to follow from well scraping the cavity in old-standing cases.

Mr. Pearce Gould considered the unsatisfactory termination of the case should not be credited to the operation, which was, in itself, successful. It was difficult to explain the abscess of the brain in association with empyemia, but it had to be admitted that it was septicæmic, as shown by the temperature chart of the case. Mr. Hulke, he observed, regarded the existence of subnormal temperature, with headache, as indicative of intra-cranial suppuration. Was any tubercle of the brain found in Dr. Hall's case? He agreed with Mr. Parker that all cases of empyemia were not alike, and thought encouragement to operate in the eleventh interspace in some cases was found in the fact that the diaphragm did not in this situation interfere, a cavity remaining there. Moreover, when the wall of the chest collapsed in an empyemia, the eleventh interspace was the only spot where a wide space existed, the diaphargm not being adherent, so that good drainage might be secured there. He believed it would have been a good plan in Dr. Hall's case to have left the upper tube in place instead of removing it. Commenting on Mr. Parker's plan of employing two tubes, Mr. Gould instanced the case of a gentleman on whom he operated, making a single free opening in the post-axillary line, inserting only a single tube. The patient, though much reduced, made a good recovery.

Mr. Godlee thought it rash to ascribe the brain abscess to the empyemia unless examination had been made to discover a suppurating spot in the ear or nose. He approved the removal of portions of three ribs in some old cases of empyema, thus affording an ample opening for free drainage. Two tubes would not be called for if the single opening was made sufficiently large. In one case he had operated on, and which had died from other causes than the empyema, he found a formation of new bone progressing.

MR. BARKER advocated excision of part of the rib to prevent nipping of the drainage tube during collapse of the chest wall. There would be no difficulty in obtaining free drainage, provided the opening was sufficiently large. In one case he removed parts of three ribs, and in it complete renovation of bone occurred; and in young subjects, especially, such a proceeding could be recommended.

A MEMBER said he had seen two instances within the last year, in which cerebral abscess followed empyema treated by removal of the rib.

SIR ANDREW CLARK said the discussion had brought out the fact that, under certain conditions, inflammation might occur without a rise of temperature; and also that septicæmia and even fever might exhibit an assemblage and progression of symptoms without exaltion of body heat. In the London Hospital, recently, was a young married woman with phthisical family history, who had been five times operated on at Guy's, and then sent to the country. She returned with a dry pleuritic rub over the whole of the right chest. With rest in bed she improved, and one large opening was made in the lower part of the axilla. She was discharged well; right lung natural. While wearing the tube she exhibited small storms of fever, which always subsided on the removal of small accumulations of pus, to which they were due.

Dr. Hall said consideration was given, before operating in his case, to Dr. Burney Yeo's suggestion, the lower opening having been purposely selected. It should be remembered, in judging the result, that the case was one of fistulous empyema, and had been progressing sixteen months before it came under his care; and in such a case the low operation offered the most favorable chance. The wall of the cerebral abscess was one-eighth of an inch thick, and must, therefore, have been some time in formation. There was no evidence of tubercle in the brain, nor of any diseased bone at the base of the brain, in the nose or ear.—*Medical Press.*

Correspondence.

FOREIGN CORRESPONDENCE.

General Hospital, Vienna,
January 28, 1884.

Editors Lancet and Clinic:

The lectures and clinics, which, in the various departments of the Hospital, were suspended for two weeks during the Christmas holidays, have again been resumed. The number of American students who have been attending here during the winter is estimated at about one hundred—quite a good representation from across the ocean. The number of German students proper in attendance here has somewhat fallen off from former years. This is probably due to two causes. The first is, that expenses for living have progressively increased during the last five or ten years. Then the *courses* given in the Hospital cost, generally, from twenty to fifty guilders, and they last about a month each—five hours a week. A guilder has a nominal value of fifty cents. The second cause is that the Vienna school has probably seen its best days. Hebra, Rokitansky, Hyrtle, and Arlt are gone, and their chairs have been filled by men who, to be sure, are painstaking, good teachers, but they are hardly known outside of Vienna. Hebra's clinic for skin diseases was so well attended that one could hardly get a seat; now, in that of his successor, hardly one-fourth of the seats in the amphitheater are occupied. In Hyrtle's large amphitheater one had to get there an hour before the lecture time to get a good seat; now one can have his choice of seats at the lecture hour.

By the way, while speaking of Hyrtle, let me tell you a joke that is told of him. Those of your readers who are familiar with his personal habits will readily call to mind how untidy the great teacher of anatomy was in his dress. It seems he has not changed much since his retirement from the University. He lives about forty miles from Vienna. He has a plot of ground in the town which was formerly a cemetery; here he spends his leisure time in exhuming bones. One day during the autumn he was seated on one of the public benches of the town, enjoying the air and looking at the passersby. He was taken with quite a coughing spell; and a gentleman who was passing by, thinking he was some invalid beggar, out of pity offered him *ten kreützers* (five cents). The great Professor thanked him politely, and told him to keep his money for some poorer beggar. Hyrtle is estimated to be a millionaire.

Nothnagle is one of the best and most popular lecturers here. He has, probably, the largest number of students of any of the Professors. They say, however, that, although he is a brilliant lecturer and has everything at his tongue's end, still his diagnoses are not generally verified in the post mortem room. He lectures on internal diseases.

Billroth, the great surgeon, has aged very much in appearance in the last ten years; he is also growing very corpulent.

Stricker, the great histologist, looks something like a genteel English prize fighter; his hair is clipped short and is almost gray. His lectures are a feature of the place.

Yaeger is the most celebrated oculist here. He lectures in a smooth and undemonstrative style, but he is very choice in his language and accurate in his statements. His first assistant gives the best ophthalmoscopic course given here; it is generally patronized by foreigners. The treatment of certain forms of corneal abscess by means of cauterization with the heated iron is practiced here to a certain extent. About a month ago it was tried in Yaeger's eye wards. The abscess was completely abolished and so was—the eye. Probably the iron was heated too much.

The prevalence of typhoid trouble, which was so marked a feature of Vienna a few years ago, has, to a marked extent, abated. This is owing to better and more stringent sanitary regulations on the part of the authorities, and also from the fact that the drinking water is now brought from the mountains in the neighborhood, the so-called Hoh Quelle of the new water-works. This water is a mixture of snow and spring water. It is said that this is the cause of the almost universal prevalence of goitre in this region. About every third person you meet in Vienna has a goitre.

The mortality from consumption is very great here, *twenty-four* per cent. of all deaths are from this disease alone.

Of births in this city, *forty per cent.* are illegitimate, and in Hungary I am informed by a government officer that they run as high as *sixty per cent.* This "easy" way of living is probably one of the causes that leads to the high percentage of deaths from consumption. Many of the American students are leaving for Italy, so that there is quite a thinning out among the American Medical Colony here. I expect to follow them in about a week. From there I intend to go to Paris; but I see by my timepiece that it is nearly midnight, so .

Au revoir,
FRANCIS DOWLING.

"Is our Civilization Perishable?" The question is asked in the *North American Review* for March by Judge A. Jameson. In the same number of the *Review* there is an article of extraordinary interest on "Agricultural Politics in England," by William E. Bear, editor of the *Mark Lane Express.* "A Defenceless Sea-board," by General H. A. Smalley; "Neither Genius nor Martyr," is the judgment pronounced upon the wife of Carlyle by Alice Hyneman Rhine. In "The Story of a Nomination," W. O. Stoddard recounts the hitherto unpublished history of the means by which the nomination of Abraham Lincoln for a second presidential term was brought about. Other articles are "Literary Resurrectionists," by Charles T. Congdon; "How to Improve the Mississippi," by Robert S. Taylor, and "The Constitutionality of Repudiation," by D. H. Chamberlain and John S. Wise. Published at 30 Lafayette Place, New York.

THE CINCINNATI
LANCET AND CLINIC
A Weekly Journal of
MEDICINE AND SURGERY,
ISSUED EVERY SATURDAY.

TERMS, $3.50 PER ANNUM IN ADVANCE.

☞All letters and communications should be addressed to, and all checks, drafts, and money orders made payable to
DR. J. C. CULBERTSON,
EDITOR AND PUBLISHER,
281 W. 7th STREET, CINCINNATI, OHIO.

SUBSCRIBERS TO THE LANCET AND CLINIC who have not already remitted their subscription will confer a favor on the publisher by promptly doing so.

Cincinnati, February 23, 1884.

The Week.

ST. MARY'S HOSPITAL REPORT.—We are in receipt of the St. Mary's Hospital Report for 1883. The Report shows that they have treated during the year 1,749 patients, and have had 135 deaths.

The classification of diseases is unique. Tonsillitis is placed under the head of General Diseases. Myalgia is classified as a disease of the Nervous System. Morbus Valv. Cardis is the wholesale way in which valvular diseases of the heart are classified. Six cases of Icterus (?) are given among diseases of the Digestive System. Tænia (?) is classified among General Diseases when affecting males; when, however, the female sex are the sufferers it is placed among diseases of the Digestive System. We have heretofore fancied that perineorrhaphy was the name of an operation and not of a disease. Nasal catarrh seems to be a very indefinite disease, as it is twice classified among General Diseases and once among Surgical Diseases of the Head and Neck.

They treat some diseases in the surgical wards that are generally supposed to belong to the medical department, as: Herpes zoster, general anasarca, chronic bronchitis, pulmonary phthisis, organic disease of the heart, stomatitis, malarial fever.

Among the cases operated on in the eye and ear department are five of cataract, two of which, it is innocently remarked, were *not* operated upon.

Miami Medical College Alumni Association.—The annual reunion of the Alumni Association of the Miami Medical College will be held in the College Building, Thursday, March 6th, 1884, at 3 p.m. Addresses by the President, and Dr. John G. Smalley of the Graduating Class.

The members are cordially invited to be present. Daniel Millikin, M.D., Pres't.

Wm. H. Falls, M.D., Secretary,
No. 70 West Seventh Street.

At the recent competitive examination for the positions of interne in the Cincinnati Hospital for the ensuing year, four of the six positions were gained by students of the Miami Medical College, the gentlemen elected being Messrs. Oliver, Rover, Phelps and Mayer.

Selections.

MEDICINE.

Prognosis in Heart-Disease.—An abstract of a Lecture Delivered before the Harveian Society of London, November, 1884. By W. H. Broadbent, M.D., F.R.C.P. Lond, *and published in the British Medical Journal.*

Prognosis, foreknowledge of the course and issue of disease, is one of the highest and most important attributes of the medical man. Perhaps, more than any other, it is the mark of the complete physician; it is the combined result of large knowlege, extended experience, close and minute observation, and true insight, and is the test of what may be called the clinical faculty. Its importance to the patient is evident, and to the medical man it is scarcely less so; nothing secures the confidence of patients and friends so firmly as to see the drama of an illness unfold itself according to a course already sketched out, and pursue its march to a known termination. True, this foreknowledge may, like the gift of prophecy, be a burden; we may have to dash to the earth hopes which are the only comfort of a family and friends; but it is far better to have beforehand the pain of seeing what is impending, than to have afterwards the bitter regret that we allowed ourselves and others to be deluded by false hopes, and perhaps that we contributed to overwhelm a family in disaster as well as in grief. But prognosis is the knowledge not only of the end but of the course of disease; it is, in fact, only a branch of diagnosis. These remarks upon the value and importance of prognosis apply with special force to heart-disease. What a difference there is in the presence of a case of disease of the heart, in which the question of the future arises, between the man who knows, and him who can only conjecture! The one must hide his ignorance and defend his credit by vagueness of statement; must, therefore, on recognizing the existence of heart-disease, speak of sudden death as amongst the contingencies to be feared; or, having seen that his apprehensions in previous cases had been falsified, he may on the other hand, lull the sufferer into false security, and not fail to warn him of inevitable danger, but precipitate the fatal termination. The other, secure in his knowledge, will distinguish the cases in which he must warn from those in which he may hold out encouragement.

That it is, in my opinion, possible to predict with more or less certainty the course of disease of the heart, and to estimate approximately the duration of the patient's life, is evident from the title of these lectures; and I have now to endeavour to make good the promise it implies. The subject is not a new one to this Society or to myself. Seventeen years ago, I read a paper before this Society, on prognosis in valvular disease of the heart, and for the most part the principles I then laid down have been confirmed by subsequent experience; and I shall restate and expand them with the advantage of increased knowledge and confidence.

Sudden Death in Heart-Disease.—In the mind of the general public, disease of the heart and sudden death are so closely associated, that the mention of the one immediately suggests the other. It must be understood that the sudden death under consideration is such as is meant by the phrase "dropping down dead" with little or no warning, the individual having been up to the moment in apparent health, or so far well as to be able to go about his duties. Medical men are well aware that this apprehension on the part of the public is greatly exaggerated; but they hardly sufficiently recognise that sudden death is a contingency which may almost be left out of consideration in valvular disease, except in aortic regurgitation. Dr. Sidney Phillip has, at my request, made an abstract of nearly four hundred cases in which, on *post mortem* examination, the heart had undergone marked change. Of these, 151 were cases of valvular disease; among them, eleven were examples of aortic stenosis, without one sudden death, in the sense of the sufferer being overtaken by death while in apparent health; of aortic insufficiency and regurgitation, there were thirty-eight cases; three were brought to the hospital dead, a fourth died suddenly in the hospital; in six more the final symptoms came on abruptly, and were rapidly fatal. Of fifty-three cases of mitral stenosis, only one was brought in dead. The cases of mitral insufficiency or regurgition were forty-nine in number; of these, two may be said to have died suddenly, but both had serious symptoms, and were under treatment in the hospital at the time, and in both the pericardium was adherent; in three more a sudden attack of dyspnœa set in, and proved rapidly fatal.

Under the head of hypertrophy and dilatation, only two sudden deaths were directly attributable to the state of the heart. When, however, we come to fatty degeneration, the story is very different. In nine out of thirty-eight cases the termination was sudden; it is, in effect, to fatty degeneration that heart-disease owes much of its terror of sudden death. It will, I trust, be sufficiently, evident that in valvular disease of the heart, with the exception of aortic insufficiency, we are justified in assuring our patients and their friends that there is practically no danger of sudden death.

General Prognosis of Valvular Diseases.—Diseases of the heart are classified as structural, valvular, and pericardial, according as the morbid change affects the musular walls, the valves, or the pericardium.. We shall consider, first, the prognosis of the valvular affections, which are of most importance, because most numerous, and best understood. We may be called upon to form an opinion as to the probable course, duration, and termination of valvular disease of the heart at different stages, and under various circumstances.

1. The subject of the affection may be in apparent health.
2. Effects of the imperfect propulsion, or of damming back of the blood, may have become manifest in pain, breathlessness, cough, debility, with other concomitant symptoms.
3. The patient may be in some stage of dropsy, or in the crisis of some pulmonary complication, or subject to paroxysms of dyspnœa, or to attacks of syncope.

Many considerations will enter into the injury, and the weight attached to each will vary indifferent stages of the disease; the elements of prognosis are therefore, necessarily complex, but not necessarily complicated.

If, now, we ask ourselves what facts we should desire to know, in order that we might prognosticate the course and issue of a given case of valvular disease of the heart, the answer will be as follows.

1. The valve affected, and the relative danger attaching to the particular lesion.
2. The actual condition of the orifice and valve; and the degree of obstruction, or amount of regurgitation, to which the lesion has given rise.
3. The nature and tendency of the morbid change in the valve; whether it is stationary or progressive.
4. The degree of soundness and vigour of the muscular substance of the heart, and of the tissues generally; how far, in fact, compensatory changes can be counted upon.
5. The mode of life of the patient.

When symptoms are habitually present, it is still of vital importance to know, what valve is affected, and far more to have an idea of the extent of the lesion; but other considerations now come in; there is failure on the part of the heart to counteract, by increasing vigour, the effects of the valvular disease. Is this due to radical weakness, or to some temporary cause, such as anæmia, exposure to cold, overexertion, or anxiety?

The relative frequency of the several valvular diseases is, according to Dr. Walshe, mitral regurgitation, aortic constriction, aortic regurgitation, mitral constriction, tricuspid regurgitation, pulmonary constriction, pulmonary regurgitation, tricuspid contriction; and, according to the same observer, their order of relative gravity is:

tricuspid regurgitation, mitral regurgitation, mitral constriction, aortic regurgitation, pulmonary constriction, aortic constriction. According to my experience, aortic contriction should be displaced from its position of relative frequency, and should come after mitral constriction; and I shall leave the valves of the right side of the heart entirely out of the question, since lesions of them are not only relatively rare, but they can scarcely be considered independently of affections of the valves of the left heart or of the lungs. I should then give the following as the order of relative danger; mitral stenosis, aortic regurgitation, mitral regurgitation, aortic stenosis. Aortic regurgitation, however, under certain circumstances, is the most fatal of all valvular affections; this is, when it comes on late in life, at a period when it is progressive in character, and when compensatory hypertrophy is established with difficulty.

The actual condition of the orifice and valve affected must now be considered. Our guide in localising disease in the valves of the heart is chiefly a murmur, produced by obstruction to the current of blood, when one or other orifice is narrowed or roughened; or by regurgitation, when a valve no longer closes perfectly.

By means of the murmurs, we learn definitely which valve is affected, and in what way, but they fail altogether to indicate of themselves the amount of damage which a valve has sustained.

A loud murmur may be produced by a very slight change, and a murmur which is scarcely audible, may be indicative of most extensive destruction.

Murmurs may be compared or contrasted in several respects: in intensity, in duration, in character, and in their relation to the sounds of the heart in point of time.

A loud murmur is, on the whole, of less serious import than one which is weak and soft; it is at any rate, indicative of force in the heart's action, and weakness of the heart constitutes the greatest of all dangers. It must not be concluded that a soft or weak murmur necessarily signifies either a failing heart or a greatly damaged valve; but a diminution of the intensity of a murmur, gradual or sudden, may confirm unfavourable indications given by symptoms.

A long murmur, except in the case of mitral or aortic stenosis, is usually indicative of early and comparatively slight disease, and of efficient action of the heart. Sometimes, a short murmur is significant of impending danger.

A character of a murmur, its roughness or smoothness, may have diagnostic significance, as will be pointed out later, but does not give any information with regard to the extent of structural change or functional derangements.

An accent at the beginning of a murmur shows that the valves still act as a check on the reflux of blood.

A postsystolic or postdiastolic murmur shows that the valves come together accurately at first, but fail to remain in apposition throughout the whole period of ventricular contraction; it indicates, then, that the amount of leakage can only be slight.

The conclusions drawn from the pulse add materially to the information; in aortic obstruction, the pulse will be long, and the initial "percussion-wave" slight. In aortic regurgitation; we have the well-known collapsing pulse. In mitral stenosis, the artery is small, and full between the beats, but usually regular; while mitral regurgitation, when considerable, is attended with extreme irregularity of the pulse.

But these murmurs, and the character of the pulse, furnish no reliable measure of the degree of obstruction and amount of regurgitation; we posses such an indication, however, first, in the effects on the cavities and walls of the heart; secondly, in the evidence of obstructed circulation in the lungs or in the system.

Hypertrophy and dilatation are looked upon as caused by the valvular lesion, and as affording a measure of its extent; but let me not be understood to assert that, the less the hypertrophy and dilation, the smaller the valvular damage, although this is usually true. The prognostic meaning of hypertrophy and dilatation is recognised by all writers alike; but the idea, that the structural changes in the walls of the heart are the direct result of valvular disease, though very natural is frequently set aside as too simple. According to many authors, the symptoms and ultimate fatal termination are due, not to the valvular disease itself, but to the hypertrophy and dilatation with which it is associated; and the difficulty is stated thus by Walshe: "No direct ratio constantly holds between the amount of hypertrophy and of valvular obstruction, showing that there is something beyond the mechanical difficulty, which contributes its quota of causation."

This is, however, capable of explanation by the following considerations. First, different affections of the valves have, inherently and mechanically, different degrees of tendency to the production of structual alterations; secondly, the time of life at which the lesion of the valves take place is of great significance; a given valvular affection, for example, established in youth, will be survived with great hypertophy; after middle-age, it will prove fatal before structural change can be accomplished; thirdly, time is an important element in the development of hypertrophy; fourthly, the mode of life will influence the degree of hypertrophy; and, finally, the period, after the occurrence of the valvular change, at which active exercise was undertaken, will have great influence on the condition of the heart-walls and cavities. In the above conditions, we have the quota of causation beyond the mechanical difficulty at the valves, which explains the variations observed.

There are at least three distinct ways of regarding the connection between hypertrophy and dilatation, and subsequent symptoms. A. As the main cause of these symptoms. B. As aiding in their production by aggravating the ill consequences of valvular derangement. C. As tending to neutralise these ill consequences.

The point on which all agree is, that valvular disease accompanied by these structural changes is more serious than when it is not thus accompanied; but this fact is capable of the double interpretation, either that the valvular affection is rendered more serious by their presence, or that they are present because it is more serious.

Which of the two is true will be seen if we consider the effects which the valvular lesions would produce, independently of the changes in the walls and cavities, and the modifications of these effects to which the structural changes will give rise.

First, then, as to aortic constriction. Here there must be either increase in the propulsive power of the heart, or diminished rate of circulation. The increased power is gained by hypertrophy; and a direct aortic murmur, accompanied by hypertrophy, is more serious than one not thus accompanied, because in the latter case the valvular lesion has occasioned a mechanical difficulty sufficiently great to call for hypertrophy.

Again, in aortic insufficiency, a certain amount of blood returns into the ventricle at each systole; mere augmentation of the force of the systole would not remedy this, but an increase in the capacity of the left ventricle brings about the desired result, and thus compensates for the regurgitation. Dilatation, which under all other conditions is injurious, is thus actually a compensatory change in aortic incompetence; it is a totally distinct thing from the dilatation which is sometimes met with as the result of structural weakness, or degeneracy of the muscular walls of the heart. There is also a call for increased exercise of force in the additional quantity of blood to be lifted at each systole; so, in addition to the dilatation, we must have hypertrophy.

In mitral regurgitation, we do not find the same degree of dilatation or hypertrophy in the left ventricle as in aortic regurgitation, and in mitral constriction there may be contraction. In this class of cases, the hypertrophy of the left heart is secondary to that of the right, which is caused by backward pressure through the pulmonary circulation to the right ventricle.

Mitral stenosis, I shall reserve for special consideration.

The conclusions arrived at from these considerations are, first, that the relation between valvular associated structural alterations is one of cause and effect; secondly, that these changes are distinctly conservative; and, thirdly, that these changes, with due qualifications, are a measure of the valvular disease.

The Stationary or Progressive Character of the Lesion as Influencing Prognosis.—So many differences exist, arising out of the character of the pathologicol processs by which the valve is affected, that it will be necessary at this time to enumerate the principal causes of lesions in the valves and orifices. They are as follows.

1. Congenital malformation of the valves. This is usually accompanied by other results of imperfect development in the chambers of the heart, or in the great vessels. Any such condition would be permanent and stationary.

2. Acute endocarditis. Valvular lesions from this cause are, for the most part, stationary, except when, by adhesion between the flaps of the mitral valve, stenosis of this orifice is produced.

3. Chronic endocarditis and degeneration. This common in later life, is due to gout or renal disease, and has a progressive tendency.

4. Rupture of a valve, This is a rare

occurrence. It is usually the aortic valve which suffers, death almost invariably ensuing rapidly; or one or more of the tendinous cords of the mitral valve may be ruptured.

5. Dilatation of the orifice may derange the functional efficiency of a valve, while the valve itself has not undergone any material change. This is not uncommon in the mitral valve, causing regurgitation, which may occur at any period of life, and under very different conditions. It may be induced by acute disease, such as enteric fever and acute rheumatism, or by a debilitating influence, such as anæmia.

The distinction which it is usually most important to ascertain is between lesions originating in acute endocarditis, which are, therefore, probably stationary, and lesions produced by chronic, inflammatory, or degenerative changes, which are inevitably progressive.

Thus far we have been discussing the prognostic indications furnished by the heart itself; we have now to examine into other conditions which influence the future of a case of heart-disease.

Age.—Valvular disease appears to be more serious in early childhood than a few years later. The heart cannot both keep pace with the active growth of this period of life and answer the demand for hypertophy.

Sex.—It is remarkable that mitral stenosis is much more common in women than in men. Out of 53 cases, 38 were in females, and only 15 in males. On the other hand, aortic insufficiency is more frequently met with in men. Out of 36 cases, 30 were males and only 6 females. When valvular disease has been established in childhood, girls are, according to my experience, more likely to break down at the trying period of puberty than boys, and the compensatory changes are less perfect in the former than in the latter.

Hereditary Tendencies. — In no class of cases is it more necessary to inquire into the family history than in diseases of the heart. It is more particularly in affections of the muscular walls that a family tendency to heart-disease is seen, and antecedent to this, and explaining it, is peripheral resistance from undue arterial tension.

Anæmia.—A deterioration of the blood is a common and almost inevitable result of heart-disease, when this reaches a point at which it begins to affect the circulation. The impeded and slackened flow of blood prevents those active changes from taking place by means of which the blood is constantly renewed; absorption of food will be hindered by the languid movement of the blood in the gastro-intestinal mucous membrane. Anæmia, therefore, is a serious element in the forecast. It has a serious detrimental effect on the heart affected with valvular disease; again, it is often attended with palpitation of the heart, and will add to this distressing and sometimes dangerous symptom. Anæmia may of itself give rise to œdema, and it will precipiate the occurrence of dropsy when the tendency of the heart-disease is in the direction of this complication.

There still remains for consideration the prognostic influence of the circumstances and mode of life of the patient. The man who must labor with his hands, who is exposed to all weathers, whose food is poor, who breathes impure air, and indulges, perhaps, in drink, who seeks advice only when too ill to follow his avocation, has far smaller chances than the man who seeks advice early, and who has adequate means to follow it out.

Scarcely less important is the degree of tension which exists in his arteries; high pressure increasing the shock of every closure of the aortic valves, and also of the mitral valves, by rendering necessary more powerful contraction of the ventricle in order to drive on the blood, is necessarily injurious, aggravating mischief already effected.

In order to complete our view of the prognostic indications of valvular disease, the modes of death must be described, together with the symptoms which lead up to a fatal termination. Ultimately, the immediate cause of death from heart-disease is failure or arrest of the circulation. This may occur in two ways: from arterial emptiness, caused by want of propulsive power, seen in aortic obstruction and regurgitation; or from venous obstruction, in mitral obstruction and regurgitation; further, the two conditions mutually generate each other, and so complicate each other. For example, in aortic incompetence, the blood flowing back from the aorta under high pressure, anticipates, in some degree, the entry into the ventricle of blood from the auricle; the auricle does not fully discharge its contents, and the due amount of room is not made for the blood arriving by the pulmonary veins. So long as the capacity of the two ventricles is the same, the right will send more blood into the pulmonary circulation than the left can receive from it. the original tendency, however, predominates, and gives a special character to the fatal termination, and to the final symptoms. In aortic disease, the patient is pale, and weak, suffers from shortness of breath, giddiness, faintness, and a sense of oppression; as the disease advances, there is anginoid pain, sleeplessness, gasping dyspnœa, often no dropsy, or this may be absent till a very late period of the disease, and death may occur by sudden syncope, or from exhaustion, or by an acute intercurrent pulmonary attack.

In mitral disease the early symptoms indicate pulmonary obstruction, and dropsy sooner or later is the rule; the face is dusky, though in some cases there is pallor; the extremities are cold and purple; the breath is short; there is cough, and congestion of the lungs is easily induced. Later, there is habitual dyspnœa; the dropsy advances; sleep is broken or almost lost, for voluntary respiratory effort is needed to supplant the ordinary reflex action of respiration.

The exact conditions which determine the effusion of serum into the connective tissue in heart disease, form an interesting study. The condition which is most certainly and conspiciously present is obstruction to the return of the venous blood to the heart, but that it is the efficient cause of dropsy is questioned by Dr. Walshe; he says that something beyond the cardiac disease is required in order, as a matter of necessity, to entail the occurrence of dropsy; that this is shown by the facts that there is no direct relationship between the amount of heart-disease and of dropsy, that dropsy comes on suddenly sometimes from extraneous causes, the state of the heart remaining, as far as ascertainable, in precisely its previous condition, and that dropsy diminishes and increases, while the organic changes in the heart remain permanent and unmodified. But this reasoning is valid only on the supposition that the effect on the circulation is exactly the same, when apparently similar conditions of valves, cavities and heart walls are present. But such is not the case; the return of blood by the veins may vary greatly when very similar affections of the walls and valves are present. In extensive valvular disease, we have a state of unstable equilibrium in the circulation; in health, the heart responds to calls made upon it by varying conditions, such as temperture, excitement or emotions, but in disease the adjustments are effected with difficulty, and may fail altogether under slight provocation. It seems to me difficult to imagine more effective agencies in the production of the changes referred to than a delayed circulation; the sluggish stream can neither furnish the digestive secretions in due quantity nor of proper quality, nor take up the nutritive materials with normal rapidity, nor can the assimilating organs, impeded in their functions by chronic congestion, effect perfectly the further changes necessary to the formation of healthy blood. The tissues, also, permeated by a slow current of unhealthy blood, can neither obtain sufficient matter for their renewal nor get rid of the products of waste, and consequently fall into a state of degeneracy. When a patient, after exertion or exposure, begins at once to suffer from dyspnœa, pulmonary congestion and dropsy, he having been previously free from these affections, and his valvular disease compensated for by hypertrophy, in such a case we can scarcely say that there has been such a change in the blood or tissues as to determine the effusion; clearly the increased derangement of the circulation has given rise to the serous exudation.

Bringing, in conclusion, some of the chief indications dwelt upon to a focus, we have, let us say, an individual in apparent health, in whom a valvular murmur has been discovered; there is, however, no modification of the pulse, and no structural change in the heart. Here the change in the valves is slight, and present danger there is none.

The future of such a patient will depend on the nature of the lesion, whether, that is, it is old and stationary or recent and progressive. In one case he may reach old age, in the other, may have only two or three years to live.

In another case, while there are no symptoms, there is dilatation and hypertrophy, or both, and a corresponding modification of the pulse. These show that the valvular change is sufficient to have called for compensation, and although this may be sustained under ordinary circumstances, it may break down under strain of any kind. If the lesion is progressive, symptoms will not long be absent.

In yet another patient, embarrassment of the pulmonary or systemic circulation has been set up. Here danger is never far off, though it may be guarded against for years. Symptoms once present, there is, generally speaking, far less probability of prolonged life in aortic than in mitral disease. The state of the walls and cavities of the heart will be important, but still more the question whether the symptoms are due to some simple and remedial cause, or are the direct result of the state of the valves.

The stationary or progressive character of the change loses nothing of its importance. The only hope lies in the absence of any tendency to aggravation of the valvular lesion, together with soundness of structures generally, and a good family history.

When we are called to a patient suffering from some severe pulmonary complication, or from advanced dropsy, the first question will be whether the symptoms have come on gradually or have been precipitated by exposure or over-exertion, or other adequate cause. If they have supervened in spite of favorable circumstances, there is little chance of their arrest. If, on the other hand, some powerful disturbing influence has overthrown the equilibrium of the circulation, this may be regained if the heart manifests power, and if the dilatation and hypertrophy do not tell of a hopeless extent of valvular mischief.

TRICHINOSIS.—From time to time, the popular mind on this side of the Atlantic has been alarmed by the discovery of trichinæ in American pork, which has been represented as a possible, if not a probable, source of such epidemics of trichinosis as have been observed on the Continent. Such an origin has never been proved, and with a few insignificant exceptions, poisoning by trichinæ is unknown out of Germany and Scandinavia. Nevertheless, the exclusion of American pork from the market has been voted by the Parliaments of Austria, Italy, and quite recently of France, notwithstanding the representations of M. Brouardel and other eminent authorities, who urged that there was no adequate reason for depriving the populace of a large food-supply, and that the agitation was fermented by interested traders. Indeed, as Dr. Glazier remarks in the Report on Trichinæ and Trichinosis, issued a few years since by the American Government, trichinæ, though most prevalent in Russia and Eastern Germany, have been found in every country where they have been carefully looked for; but trichinosis has never appeared, except where people have eaten the flesh of these animals raw or imperfectly cooked. In the solitary instance of fatal trichinosis in this country, the pig was home-bred and fed, but eaten, as is the practice in some districts of Cheshire and Lancashire, half raw; and Dr. Wortabet has reported a serious outbreak in Syria from the use, in that state, of the flesh of a wild boar.

In Germany, all classes have an inveterate liking *rohe Schinken*, generally, but not always, smoked; and since it is hopeless to change the habits of the people, the Government has appointed inspectors. Where, as at Berlin and in the larger towns, there are really able microscopists, and the carcase is presented whole, a thoroughly adequate examination can be made in a quarter of an hour; but many of the 18,000 inspectors are more or less incompetent, and such seems to have been the case at Emersleben, in Prussian Saxony, where this official was a barber, though there is no doubt as to his good faith, since he and the butcher partook of the infected meat, and both suffered in consequence.

The circumstances were shortly these: On September 11th last, a butcher at Emersleben went over to the neighboring village of Nienhagen, and bought a pig bred at that place. He killed it on the 12th, and sold its flesh daily from the 13th to the 19th of the month. Out of a population of 700 persons, 250 were attacked, and 42 died. At Deesdorf he sold only on the 12th, but 42 persons were attacked and nine died; at Gröningen there were four cases, two fatal, of men who went over to Deesdorf on the 13th, and bought the sausages, and two of children at the convent school, whose parents at Deesdorf sent them some as a present. They did not eat it for two or three days, and both recovered. The whole of the meat, except some slices which the butcher gave to two of his near neighbors, was chopped up and mixed the same day with that of another animal. Lastly, on the 19th, as it no longer looked saleable, the butcher again worked up what was left with some more freshly killed, and sold it at Nienhagen. Eighty persons suffered, but none died.

The population of the district are very well-to-do, and there was not a single pauper in the place; but pork, very slightly salted, or smoked ham, either made into sausages, or chopped up and eaten between slices of bread, but in no case cooked in any way, constitutes the only flesh-food of the people, and all who were attacked partook of it thus. In one house, the mistress plunged the sausages for just five minutes into the boiling soup; she, her husband, and three children escaped; but the servant, who had previously helped herself to some, which she ate raw, was attacked. Again, of those who consumed it the day after the animal's death, no fewer than thirty-three per cent. died, and forty-four per cent. suffered severely. Each day, the proportions improve, until, of such as did not take it until the 18th, or subsequently, none died, and the great majority suffered only slightly. The 250 victims at Emersleben were attacked—136 (=54 per cent.) within the first week, 49 (=36 per cent.) in the second, and 25 (=10 per cent.) in the third week after infection. One man at Emersleben escaped, after eating three-quarters of a pound of the raw meat, washing it down with over a quart of brandy, weaker, however, than ours; owing, no doubt, to the fatal effects of the alcohol on the trichinæ.

The certainty with which even a short exposure to high temperatures kills these parasites was well seen in the case of the family of Mr. Heine, the mayor of the village, though one must remember that the heat would require a much longer time to penetrate a joint. The rapid falling off in the virulence of the effects, or, in other words, in the reproductive power, of the trichinæ was hastily attributed by the French Commissioners, MM. Brouardel and Granché, sent by their Government to investigate the matter, to the effect of incipient putrefaction. This explanation is, however, untenable, for M. Colin, of Alfort, in his experiments, long since showed that though they do not retain their vitality in a putrid fluid, their reproductive power is in no way lessened by advanced putrefaction in pieces of flesh exposed to moisture, warmth and air for a fortnight.

The comparative feebleness of the trichinæ after the first few days was, we should think, due to the gradual saturation of the meat by the salt, which was probably sprinkled or rubbed on the mass just to keep it fresh as long as was required, to which, in the case of the sausages, we must add the action of other condiments. Thorough curing with brine, and thorough smoking, are probably as effective as cooking, though it is better not to neglect the last precaution, since history shows that thichinosis is the immediate penalty of its neglect, and thost nations who cook their pork and hams must have eaten thousands of trichinous carcases with perfect impunity.

One more question suggests itself, viz., whether cases have occurred among us without being recognised. This seems in the highest degree improbable; first because these cases, from their very nature and origin, rarely occur singly, and secondly, that the remarkable sequence of the symptoms could not be witnessed in a succession of cases without attracting notice, even if mistaken at first. The attacks begin with violent "choleraic" irritation of stomach and bowels, then follow acute pains in the muscles and prostration, without the characteristic temperature-phenomena of enteric fever, and lastly, extreme cachexia, with œdema of the subcutaneous connective tissue everywhere, and œdema of the lungs, causing dyspnœa. Yet albuminuria is generally absent. Each stage might be mistaken, but the order is pathognomic. Lastly as to treatment. Since the gastro-intestinal irritation is caused by the enormous multiplication of the worms, which, dormant in their previously encysted state, have been liberated by thedigestive juices, the plain indication is to evacuate the whole canal as speedily and completely as possible. Whether any one aperient have special vermicide properties we cannot say. The use of strong wines or spirits in large doses, as successfully pursued by the toper of Emersleben and in other cases of which we have heard, would be justifiable, so long as any trichinæ remained. But when they have entered the circulation and the substance of the muscular tissue, no special treatment is available. The patient's sufferings must be relieved, and his strength supported so far as possible until the encysting of the adult worms renders them once more inactive.—*Brit Med. Journal.*

NASAL CATARRH.—Cubeb is the remedy most relied on in the throat room for constitutional impression in the ordinary form of the complaint. Fifteen or more drops of the oleo resin, on sugar, after meals; or a few grains of the recently prepared powder, with two or three grains of salicylate of cinchonidia, in pill or capsule, are the forms in which it is usually prescribed. Cleanliness, by douche or spray, is essential in giving the parts a chance to get well, which they will often do by cleanliness alone, without any topical medication.—*Polyclinic.*

The Diet in Bright's Disease.—Dr. Charles Purdy thus writes in the *Chicago Med. Jour.* and *Ex.*, Dec., 1883:

"We should suggest as the diet for the albuminuric patient as follows: In the main, it should consist of farinaceous articles, fish, vegetables, and fruits. Meats must be indulged in sparingly; very small quanties of lean meat alone being permissible. Soups should be prohibited; even the conventional beef-tea and beef extracts. Eggs should be excluded from the diet in albuminuria. It has been shown by Lehmann and Stockvis that when the white of an egg is introduced into the circulation, not only does that escape by the kidneys, but a surplus of other albuminoids accomnies it. Senator says the lesson will apply to meats as well as eggs. 'Any excess acts in two ways injuriously—by increasing unnecessarily the amount of urea and other waste products in the blood; and also by pouring into the system an overplus of peptones or other albuminous matters,' which may simply have to be excreted, and cause irritation in the act.' Cheese acts in a similar manner, and should not be used. Vegetables may be used freely, and the only ones to be avoided are the leguminous ones, which are too rich in albumen. Fats may be used as freely as the condition of the stomach will permit. Milk is one of the best articles of diet, but should not be too exclusive, as it does not furnish the elements of diet in a suitable proportion. The stomach should not be overloaded, it being an occasional observation that even in healthy persons albumen appears in the urine after a large meal. Small meals, more frequently repeated than usual, is a good rule to follow in such cases. Great discrimination is necessary in the matter of drinks in Bright's disease. Alcohol in large quantities, especially in concentrated form, is generally believed to be injurious. If alcohol be permitted at all, it must be well diluted, and it is preferable to give it with some alkali or natural water, as Vichy or Apollinaris water in excess. Alcohol stimulates the interstitial changes in the kidneys if used in quantities, hence the allowance should be very small—not enough to disturb to any extent the general circulation. Claret, Sherry, and Marsala are the least objectionable. As to malt liquors, they should as a rule, be excluded, though it is stated that lighter pale ales or Bavarian beer, are nearly free from objectionable qualities.

Needless, Useless Coughing.—There is in the world, says Charles J. Hare, in the *Brit. Med. Journal*, a great deal of what I am accustomed to call "needless, useless coughing." Where secretion takes place in the bronchial tubes, it must sooner or later be brought up; coughing must take place, or the patient will choke. But, both in organic diseases and in slight inflammatory or irritative affections of the air passages, there is often an immense amount of useless coughing—unless, that is, as regards bringing up any laryngeal or bronchial secretion, and far worse than useless, because it wears out the patient, prevents sleep, and, moreover, increases the condition which gives rise to it, inasmuch as it lets the affected parts have no rest or peace. Now, the effects of opium are both local and general; and in mucilage of acacia, or tragacanth, or in glycerine, or with a thick solution of confection of rose, or honey, you give frequently from the one-fortieth to the one-twentieth of a grain of morphia, you not only give a marvelous amount of peace and comfort to the patient, but, where it is remediable, you tend also to cure the disease. A favorate formula of mine, varied according to circumstances, is:

R. Acetate of Morphine	1½ grs.
Nitric acid, dilute.	1½ grs.
Oxymel of squill.	6 grs.
Mucilage of acacia	2½ ozs.
Clycerine	2 drs.
Syrup of red poppy.	2 ozs.

Cinnamon or rose water sufficient to make the whole equal 6 ounces.

M. To take one or two teaspoonfuls five, six, or seven times in the twenty-four hours.

The coughing in pertussis may be similarly relieved.

General Paralysis.—M. Baillarger has published, in the *Union Medicale*, a paper on this subject, from which we quote the following conclusions: General paralysis is essentially a paralytic dementia. It may run its whole course without any exaltation of ideas, but there is a form of insanity, sometimes called paralytic insanity, which is characterised by ambitious or melancholic insanity, and by symptoms of muscular ataxy. This form may end in recovery, but more often it goes on gradually to simple or paralytic dementia. Paralytic insanity is sometimes caused by a diffused peri-encephalitis, and in that case remissions are frequent; but the primary disease runs its course and ends, after a relatively short time, in simple or paralytic dementia.—*British Medical Journal.*

THE USE OF ATROPHINE IN CORYZA. — The power possessed by atrophine of diminishing the secretion of the nasal mucous membrane led Gentilhomme to employ it in acute coryza. In several severe cases, characterized by profuse secretions, fever, and difficulty in breathing, which in one case closely resembled asthma, one-half milligram ($\frac{1}{130}$ of a grain) of atrophine, given in pill form, served to arrest the disease entirely. When the disease has passed through the acute stage, its administration improves the general condition, but its effect is not as striking as when given in the acute stage. Lubliski also reports decided improvement resulting from the administration of one milligram of the sulphate of atrophine at the onset of acute coryza, and the duration of the disease appears to be considerably reduced by the administration two or three times daily of one-half to one milligram. In chronic nasal catarrh, however, he could not find any improvement resulting from this treatment. — *Deutsche Med. Zeit.*

DIARRHŒA IN INFANTS.—Dr. Lewin has found great success in the treatment of diarrhœa in young infants by giving them soluble albuminate of tannin, made by adding white of egg to a solution of tannin; the white of egg must be previously beaten up with some water.

IRON HYPODERMICALLY IN ANÆMIA.— Dr. J. M. Da Costa has been using hypodermic injections of iron with good results in a case of combined malarial poisoning and lardaceous disease of the viscera. He prefers a double salt produced by the addition of pyrophosphate of iron to a solution of citrate of sodium. Two grains of the salt, in this form, are given every day, varying the points of puncture, but generally administering it under the skin of the extremities; in this form no abscesses have been observed. With other solutions of iron, including dialyzed iron, abscesses were quite common even with every precaution as to the cleanliness of the syringe.—*Medical and Surgical Reporter.*

ERGOTIN given in doses of sixteen grains will neutralize the cerebral effects of fifteen grains of quinine. Tinnitus may be entirely avoided by combining these two remedies.—*Quinologist.*

SURGERY.

RESECTION IN FRACTURE.—Dr. James Patton (*Glasgow Medical Journal*, January, 1884) highly lauds excision, under antiseptic precautions, in the treatment of compound fractures, and after relating the histories of three cases, he thus concludes: "If there be any class of cases which has been brought forward over and over again to prove the value of aseptic surgery, it has been that of compound fractures. The above cases show to what extent aseptic surgical interference with bony structures may be made, and productive of the happiest results; and it seems to me that resection has not yet attained that general consideration in the treatment of severe compound fractures, and even of some rare forms of simple fractures, which ought to be given to it. Many limbs might be saved in this way, which otherwise would be amputated. Of course there is bound to be shortening of the limb, but not more than the use of a high-heeled boot will make good. There is one thing which I have found of enormous advantage in the treatment of severe compound fractures, and that is the moulding of an iron bar to the contour of the limb, of sufficient strength not to yield when the wound is being dressed.

"I have given these cases, not for the purpose of lauding the aseptic treatment of fractures (as it is now too late in the day to do so), but more for the purpose of showing what beneficial results may be obtained from resections conducted on aseptic principles."

CELLULOSE AS A SURGICAL DRESSING.— Many as are now our articles for surgical dressings, Dr. Fischer, of Trieste, proposes in the *Zeitsch. f. Therap.*, that we should add cellulose to the list. He claims for it the following advantages: 1. It is absolutely free from substances capable of exciting putrefaction. 2. It has a very low specific gravity. 3. It produces neither eczema nor erythema upon the epidermis. 4. It retains moisture and heat perfectly, for more than twenty-four hours. 5. It never adheres to granulating wounds or the surface of the skin. 6. It adapts itself perfectly to the outline of the place of application. 7. It is much cheaper than other materials heretofore used for similar purposes.—*Med. and Surg. Reporter.*

PATHOGNOMONIC SIGN OF FRACTURE OF THE NECK OF THE FEMUR. — Prof. Bezzi, after showing in the *Spallanzani* the difficulties and uncertainties which often attend the diagnosis of this accident, observes that at the Milan Hospital a traditional practice exists of exploring, whenever fracture of the femur is suspected, the short space between the trochanter and the crest of the ilium. In place of the considerable resistance which there is produced in the sound limb, through the tension of the tensor faciæ latæ, there is found, when the injury has occurred, a deep depression, due evidently to the diminution of the tension of this muscle, owing to the approximation of its points of attachment. — *Présse Med. Belge.—Practitioner.*

TREATMENT OF ULCERS BY THE SUBCARBONATE OF IRON. — Dr. Maison regards subcarbonate of iron as the best remedy for the local treatment of ulcers of various kinds, even those of syphilitic origin. The mode of application is as follows: The surface of the ulcer is first washed with carbolized water, and then dusted thickly with powdered subcarbonate of iron, and over this is put a starch poultice. The dressing is usually changed twice a day. The healing process is very rapid, and has even taken place in ulcers which were rebellious to treatment by iodoform.—*Drug. Cir.*

MISCELLANY.

STAMMERING, ITS RELATION TO POVERTY AND ITS TREATMENT. — Dr. Barkhan, of Brunswick, Germany, obtained from the teachers in the public schools a list of all the stammerers, and then he examined them singly; there were 86 cases, belonging unexceptionally to the lower classes, laborers and mechanics. All these attended the lower grade schools. There were 72 boys and 14 girls. Most of them were poorly fed and clad, only four presenting a better physicial appearance. In 24 cases there was an abnormal relation between the form of the head and the dimensions of the chest. The smallest head was 48 ctm., the largest 57 ctm. The smallest chest was 51 ctm., the largest 75 ctm. in circumference. Normally, the circumference of the chest exceeds that of the head 8 — 11 ctm., rarely 6—8 and 11—13. In the formation of the palate there were various anomalies; the great depth, and its conjugation with the form of the maxillary, and position of the teeth. He does not regard these as the cause of stammering, but only as an arrest of development, which is often found with idiots and deaf-mutes, which is only a proof of their close relations. There was no evidence of heredity in any of these cases. He proposes a plan for their education which will require six months, three hours weekly.

The 37 worst cases—boys—will require three teachers, who must treat them with the utmost kindness and consideration. A physician should be in constant attendance with the teachers.

Instruction for Stutterers. — The first and second months comprise exercises in breathing. 1. 15 minutes. Inspiration and retention of breath, at the same time placing the right hand under the left false ribs, for three seconds, gradually rising to twenty seconds; repeat this three times, and then rest one minute. Expiration three seconds, increase to ten seconds; repeat three times, then rest one minute. Then keep time in inspiration and expiration; pause more or less. This must be done with absolute regularity for several minutes. Beat time like in music, accelerate or retard the breathing, pause, repeat and proceed. 2. 15 minutes singing. 3. 15 minutes marching and calesthenics, especialty of the arms.

The third and fourth months comprise exercises of the voice. 1. 15 minutes. Repeat breathing exercises—pause 15 minutes. 2. 15 minutes. Deep inspiration, and at expiration give utterance to the vowels. a, e, i, o, u, first deep, then middle then high, first 5 seconds, then rising to 20 seconds. Later, sing scales, hold the notes long, gradually expand, and then diminish. 1. 15 minutes marching, calisthenics of the arms.

Fifth and sixth months. Reading and speaking exercises. 1. 15 minutes breathing and vocal exercises. 2. 15 minutes exercises in joining vowels to consonants, and then after the consonants, always to be preceded by a deep inspiration. Then beating time to slow speaking. Deep inspiration before every sentence. 3. 15 minutes, beating time to slow reading; inspiration as before.

Instruction for Stammlers or Stammerers. — The teacher must accurately describe the position and motions of the organs of speech which are required for the proper articulation of the faultily pronounced letter or syllable, and practice it until it is corrected; repeat it singly or in combination with other letters or words; also the shape of the mouth at the vowels, the position of the lips at the consonants, the position of the lower lip and upper teeth at s, c, z, etc.

The tongue must never protrude between the teeth in speaking.—*Arch. d. Psychol.*—*St. Louis Med. and Surg. Jour.*

DEATH FROM PASSION.—Very few persons realize the necessity of cultivating an equable temper and of avoiding passion. With a weak heart or atheromatous cerebral arteries, the giving way to passion may cause the giving way of the heart or a blood-vessel, and thus prove fatal. It was the result of passion that caused John Hunter's weak heart to give out, and we should ever remember his sad fate as a warning.

THE CHINESE METHOD OF DETERMINING PATERNITY.—A correspondent (J. H. Lowry), of the *Lancet*, gives the following bit of medico-legal evidence: A basin or cup of clean water is obtained; the supposed father's finger is cut and then put into the water till some blood trickles; then the child's finger is cut and placed in the water, and if the two bloods immediately unite the proof is complete. The magistrate is sometimes bribed and the water tampered with.

THE COMMENCEMENT EXERCISES of the Medical College of Ohio will take place at Music Hall on the evening of March 7th.

The Alumni will be addressed at their afternoon meeting by their President, Dr. George Sutton, on the "Phases of Diseases in Indiana in the last Thirty Years."

The Anti-Septic Method of Dr. Déclat.

In the application of this method the following antiseptic medicines are employed. They may be used alone or in combination with other treatment.

PURE NASCENT PHENIC ACID, **SULPHO PHÉNIQUE,**
AMMONIA PHENATE, **IODO PHÉNIQUE.**

Each of these is prepared for use in three forms, viz.:

In ***syrup*** for ordinary internal medication;
In ***non-saccharine solution*** for diabetic patients, and for those to whom sugar is objectionable; and
In a ***special aqueous solution*** for subcutaneous injections.

There are also:

A ***Phenated Cod Liver Oil.***
A ***Concentrated Solution of Ter-phenate of Ammonia*** for yellow fever and tropical fevers.
A ***Compound Antiseptic Syrup of Ammonia Phenate*** for whooping cough; and
A ***Preparation of Phenic Acid and Glycerine,*** styled ***Glyco-Phenique,*** for external and local applications, and for vaporised inhalations.

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Original Articles.

PROGRESS OF MEDICINE. — OPHTHALMOLOGY.

By C. W. TANGEMAN, M. D., Assistant to Prof. Seeley's Eye Clinic.

THE REMOVAL OF SMALL PARTICLES OF IRON OR STEEL FROM THE INTERIOR OF THE EYE BY THE USE OF THE ELECTRO-MAGNET.

Voltolini, of Breslau, publishes a very interesting article on the use of the electro-magnet in ophthalmology. The magnet has been used for the purpose of removing pieces of iron or steel from the interior of the eye since 1842, but to Dr. McKeown, of Belfast, is due the credit of reintroducing it and publishing a number of cases successfully treated in 1874, but he only used the permanent magnet. Hirshberg was the first to construct and use the electro-magnet in ophthalmic surgery. The principles on which an instrument used for this purpose is based can be readily comprehended. Voltolini summarizes as follows:

1. A very powerful galvanic apparatus is required.

2. It is not sufficient to have only a small electro-magnet, but a large one, capable of lifting twenty pounds is necessary, since

3. It may become desirable to mangetize the foreign body in the eye as soon as its presence is discovered, which is done by gently passing the instrument over the closed eyelid.

4. The small electro-magnet used in the operation must be constructed so as to be very powerful, and allow a changing of tips or points, whenever the nature of the injury requires it. The lifting power of the instrument diminishes as the distance from the coil increases.

5. Before every operation an effort should be made to move the piece of metal by the application of a powerful magnet to the eye-ball.

6. If this effort is successful, it assists us in locating the foreign body, and does away with the necessity of entering the interior of the eye with the instrument, since it can be drawn to the scleral incision and there removed by means of a forceps. The greatest difficulty seems to be experienced where the foreign body is very small. A powerful electro-magnet is capable of withdrawing a bayonet thrust into the body of an animal up to its hilt, while an ordinary needle could not be removed in the same manner; the surface of attraction for the magnet is so small. The following case, reported by Fraenkel, beautifully illustrates the above assertion:

February 19, 1883, a paper hanger, thirty-five years old, received an injury to his left eye while working with a cold-chisel and hammer. There was a sudden pain and total loss of vision complained of by the patient. An hour later an examination revealed a wound about 2 m.m. in length in the inner corneal region. The iris had prolapsed into the cut. A distinct dark line could be noticed traversing the lens, while hemorrhage into the vitreous prevented its examination. Atropine was instilled into the eye, and the compress bandage put on. After the resorption of the hemorrhage, Fraenkel could see the foreign body as if suspended by a thread in the vitreous. The patient complained of pain in the supra orbital region. The effort to demonstrate the presence of some metal by means of the magnetic needle totally failed. February 25th the patient was narcotized for the purpose of removing the body with the electro-magnet. The incision, about 8 m.m. long, was commenced about 4 m.m. from the corneal margin, parallel with the horizontal meridian. After cutting through the conjuctiva and subconjunctival tissue, the hemorrhage from the diliated vessels was controlled. The sclera choroid and retina were carefully divided, and the lips of the wound held apart by means of small hooks. The point of the electro-magnet was passed between the lips of the wound, but without result. The point was then introduced into the vitreous, and in a few moments withdrawn, but without the metal. After repeated attempts, a small piece of steel was brought to the margin of the wound, and there stripped off. It was about ¾ m.m. long and ½ m.m. broad, in fact, so small that I could scarcely convince myself of its nature.

In this instance the extent of metallic surface of the body to act upon was so extremely small that though the point of the magnet came in contact with it, there was not power enough to draw it through the lips of the wound.

The wound healed up rapidly, and vision, when the pupil is dilated, is

Schweiger 4.° with +1/6. An iridectomy would probably improve vision, since there is considerable obstruction due to an opacity in the posterior capsule of the lens.

The time when the electro-magnet will be used in general surgery is not far distant; already it has been used to remove foreign bodies from the trachea and bronchial tubes.

Prof. Hasner presented a very interesting case to the "Verein Deutscher Aertzte" of persistant pupillary membrane. Cases of this kind are not at all rare, but they frequently escape our observation, since many times only fine thread-like fibers can be seen apparently attached to the margin of the pupil, not disturbing vision nor the movements of the iris materially; so thin is this membrane that often a close examination with the lens is necessary to make a diagnosis. Only when the persisting pupillary membrane is so dense that it can be seen easily, the passage of light into the interior of the eye is hindered there by disturbing vision. In these cases, often other anomolies, such as microphthalmos, congenital atrophy of the retina, etc., cause a diminution of vision to such an extent that operative interference cannot promise very much. On these grounds the literature on the subject of relief, by an operation, is very defective, in fact, there is not a single case recorded, where an operation was made, and what its nature and results were.

The following is a brief history of a case operated on by H:

J. M., aged, 23, a common laborer, has defective vision since birth, especially on the left side. September 29, 1883, he was admitted to the clinic, V=R 1-20 L. 1-60; nystagmus of both eyes in a high degree; with converging strabismus. Correction glasses were of no service. Opthalmoscope showed a ring-like circumpappillary staphyloma. In the center of the anterior capsule of the left eye, a small yellowish membrane is visible, to which are attached 5 to 6 thread-like fibers which are attached to the pupillary margin of the iris. The pupil reacts readily under atropine mydriasis, and presents to view a complete network of fibers downward and outward in the pupillary region.

Diagnosis.—Strabismus convergens nystagmus mixtus, myopia, staphyloma, annulare oculi utrinsque, atrophia corondiac et retinæ membrana pupillaris perseverans, microcornea oculi sinistra! There was nothing in the case which contraindicated the removal of the membrane by corelysis, so this operation was decided upon. The anterior chamber was opened by a peripheral corneal incision and the membrane removed by means of a blunt hook, which separated easily from its attachments, and came out entire.

After the patient recovered from the operation, the pupillary region was perfectly free, the capsule and lens was clear, the iris was movable, and vision of the left eye improved from 1-60 to 1-30, much to the satisfaction of the patient.

393 ELM STREET.

Correspondence.

FIREPLACE VENTILATION.

Editors Lancet and Clinic:

Permit me to notice a point or two in your editoral, with the above caption, in your issue of the 16 of February. While "every one knows that it is the exhaled excretions in the form of vapor that is the chief source of contamination of the air of an inhabited chamber," it is equally well-known that carbonic acid is the chief poisonous element in such exhalations, and that of it, about 8 oz., of Troy, or two-thirds of a pound, is exhaled from the lungs of each person every twenty-four hours, besides an appreciable quantity for the cutaneous surface. Moreover, it is equaly as well known that the sp. gr. of carbonic acids is 1,524, or more than one-half *heavier* than air.

It may be poured almost like water from one jar into another, displacing the air before mixing with it. The famous *Grotto del Cane* or Dog grotto at Naples, furnished proof of the greater weight of carbonic acid as compared with air. The poisonous gas forms but a shallow stratum upon the floor, in which a candle is extinguished, and dogs are stifled by way of experiment and amusement, while a man standing erect does not breath enough, if any, to sensibly effect him.

In consequence of its weight, carbonic acid will accumulate near the floor in illy ventilated and crowded rooms, and to effectually remove it, the means of ventilation should be at or near the floor, instead of at or near the ceiling, as is erroniously practiced.

The question of ventilation is indeed a

very important one, and the individual who shall discover or invent an efficient and convenient plan of ventilation will confer a blessing upon the world, scarcely less valuable than the invention of the safety lamp by Sir Humphrey Davy.

An open fire place fulfills many of the indications for good ventilation. 1st, it is at the floor. 2d, it creates a current, and keeps the air at the floor in motion.

Every physician of any considerable experience, must have observed the excellent sanitary condition of rooms warmed by fireplaces as compared with those warmed by stoves. In sick-rooms the per centage of recoveries will be found to be largely in favor of those warmed by an open fire. A large proportion of the extraordinary sicknesses and accidents to parturient patients have occurred in illy ventilated rooms warmed by stoves.

I have not seen the article of Dr. V. M. Bibber, to which you refer.

I have an old number of the Philadelphia *Med. and Surg. Reporter*, of July 12, 1879, laid away, because it contains an excellent editoral article on ventilation. The editor says: "The principles on which effective ventilation can be secured are not unknown. They have been repeatedly explained and occasionally tested by experiment. Every one knows that the old fashioned open fireplace, with its fire and current of ascending warm air, is the most perfect of all ventilators. We cannot have open fireplaces in all rooms, but a ventilating shaft, opening *at the floor* of the room, heated entirely by a lamp or gas jet, and running to the roof, is just as absolutely efficient and cheap. There is no draft of cold air; no opening of windows; no risk of accumulating carbonic acid gas." But, editors, like doctors, disagree. If these statements are "full of error," we ought to make a great haste to correct our opinions and act accordingly.

L. Woodruff, M. D.

Alton, Franklin Co., O., Feb'y 25, 1884.

The Sixth Annual Meeting of the Sanitary Council of the Mississippi Valley will be held in the city of Memphis, Tenn., on Wednesday, March 19th, 1884.

Wirt Johnston, Mississippi,
David P. Hadden, Tennessee,
John H. Rauch, Illinois,
Executive Committee.

Society Reports.

ACADEMY OF MEDICINE.

Meeting of January 21, 1884.

W. W. Seely, M.D., *Pres't in the Chair.* W. H. Wenning, M.D., *Secretary.*

Aneurism of the Celiac Axis.

Dr. J. L. Cleveland then reported the following interesting case of aneurism of the celiac axis:

"Was first called to see Mr. S., æt 51, June 1, 1883. At this time he was complaining of epigastric pain and nausea. The diagnosis at this time was gastro-duodenal catarrh. The symptoms proved very persistent, and they continued with discouraging persistency, sometimes better and sometimes worse, for about five weeks, when the patient began to improve. This was about the middle of July. The diagnosis was as above stated, and was supposed to have been induced and aggravated by his occupation (a saloon keeper). Even after the symptoms had ameliorated his condition remained unsatisfactory, and I continued to see him once or twice weekly. Even at this time he was in the habit of leaning toward the left side, or placing his hand upon the left side, saying it felt weak and that it occasionally pained him. About the middle of August the symptoms became more severe, and the milder remedies that I had been using failed entirely in releiving him. In addition to the nausea and epigastric pain he had severe pain in the left side and left hip. The symptoms were so severe that I gave him hypodermic injections of morphine. This, of course, produced a delightful calm, and was the beginning of a long series of annoyances to me. I was now beginning to modify and amend my original diagnosis. I was unable to make a specific diagnosis, but thought that the man's condition depended probably upon his occupation of a saloon keeper; for at this time he was jaundiced. I thought that probably he had a hobnailed liver, though physical examination failed to show any increase or diminution in the size of this organ. Now some other symptoms began to show themselves. When the attack of nausea and epigastric pain would come on there would be gaseous distension of the bowels and eructations, constipation, and when the bowels moved it would be in dry scybalous lumps, and there would be a suppression of urinary secretion, lasting from twenty-four to forty-eight hours. All of these symptoms would yield under a vigorous use of diuretics and purgatives. At times he would eat heartily, and seem to digest well, bowels moving normally, but this state of affairs would last but for a few days at a time, and the above mentioned symptoms would present again, to be relieved as above, and appear again. The pain in the hip got more severe, and soon daily hypodermics had to be administered; it was the only way peace could be obtained, as the demand was imperative. The pain was always located in one place, a spot about as large as the hand, over the left ilium, near the illio-sacral junction. Invariably this spot would be pointed to by the patient. As time passed the pain became more severe, and the patient more restive.

I cudgeled my brain for a rational theory upon which to treat my patient. I had given up my idea of gastro-duodenal catarrh. I could obtain no syphilitic history from the patient, nor was there any physical evidence that I could find that the man had ever had syphilis. Still I reflected that man is very deceitful, and that syphilis is a disease whose ways are not fully understood by any means, whereupon I decided to give him the benefit of anti-specific treatment. He was accordingly treated heroically with the iodide of potassium, and also with the iodine. I was soon impressed with the futility of this course, and hostilities in this direction ceased. I continued to beat the bush and fire away at symptoms as they presented themselves, not knowing what else to do. Now the theory, neuralgia, presented itself as the most plausible base to operate upon. Here was a case of mal-nutrition undoubtedly; there was general emaciation, and the nerves were crying for good blood, so cod-liver oil, malt, hypophosphite of iron and arsenic came in for a trial. Bravely and faithfully my patient swallowed whatever I prescribed. After the end of about six or eight weeks I was, if possible, more disgusted with the result of the treatment than the patient. What next? Of course, during all of this time the hypodermics were promptly attended to. I could not have stopped it if I would. I was at the end of my tether. I took several of my friends to see him. (Drs. Geo. E. Jones, Wenning and Drury saw him.) This was during last October. We examined him over and over again, but we failed to find anything tangible to account for his condition. He never had any fever. He was becoming more emaciated, the nervous symptoms more pronounced, and the pain more continuous and harder to control. He would cry like a child, roll on the floor, toss about in bed, assuming the most grotesque positions. He became so demonstrative, and manifested so much temper that I began to doubt whether he suffered as much as he claimed to suffer, and I thought that it was anger and irritation on his part because I did not hasten to him every time he sent and give him the morphia. Not being able to find any satisfactory cause for his condition, I began to believe that to a certain extent he was hypochondriacal. In opposition to this cruel theory the fact stared me in the face that the man was getting worse and more helpless every day. About the middle of November, while sliding my hand over the left lumbar region after having given him an injection, I felt a pulsation. This gave me an objective point upon which to work; previous to this I had none. This pulsation was very strong; in front it could not be detected; on the side, between the floating ribs and the crest of the ilium, the pulsation was apparent if moderate pressure was exercised. This pulsation became more distinct as the lumbar spine was approached. The pulsation was synchronous with the heart, the area of the recognized pulsation was confined to the left side, posterior to the lateral plane. Neither inspection nor palpation while the patient was lying on his back revealed anything. This examination, however, had been made over and over again during the summer. There was no apparent difference between the right and left sides anterior, but laterally there was some fullness of the left as compared to the right side. This, however, might be accounted for by the fact that the patient habitually leaned to the left side; but posterior to the lateral plane you could see the pulsation. The outlines of no tumor could be felt at this time; upon auscultation you could hear a sound exactly synchronous with the heart. This sound you could trace up to the diaphragm, where it was merged into the heart sound; or the pulsation appeared to be the heart wave propagated through fluid. There was no bruit to be heard nor thrill to be detected anywhere. After several of my friends had examined the case, the weight of opinion was that it was an aneurism of the abdominal aorta. The appearance of the patient made the theory of a retro-peritoneal maligant growth plausible. After watching the pulsatile condition for about a week, I noticed that the mass was increasing in size, the pulsation in the left flank became more pronounced, and there was evidently something filling up the left hypochondrial space. This could not be readily determined by percussion. Paroxysms of pain continued to occur daily; ¼ to ⅓ grain of morphine would soothe the patient for about twenty-four hours. The location of the pain was always at the same point, viz: a little above the left gluteal space, and then reflected down the left leg. He had never complained of acute pain at any other point. It was now the second week in December, and matters were approaching a climax. He was unable to evacuate his urine, and had to be catherized. He had emaciated to a mere skeleton. Part of the time he lay in a stupor, except when roused by the pain. The outline of the tumor could now be readily detected. Thus he continued to move along the down grade until December 16, 1883, when he died suddenly. A post mortem examination was held December 16th, four hours after death, Drs. Kebler, Jones and Drury being present.

Post-mortem Examination.—The body was emaciated, presenting much the appearance of a tubercular subject. There was a bulging of the left hypochondrium, this extended downward to the left iliac region. Abdominal section showed that the intestines were moderately distended with gas, and that fluid blood had escaped into the abdominal cavity, and a tumor of uncertain character extended from the diaphragm above down to the brim of the pelvis, by the left side of the spine. In order to better examine this mass the intestines were removed. The tumor was found to entirely fill up the concavity to the left of the spine, from the diaphragm to the false pelvis, and entirely filled up the space under the floating ribs on the left side. The tumor evidently contained fluid. A further examination showed that it was retroperitoneal. On opening it, it was found to be filled with blood, no true vessel wall could be found anywhere. The walls were composed of layer upon layer of coagulated blood, the outside ones being quite firm. At first we could not find where this tumor originated, but after following up the abdominal aorta, we found that the cæliac axis emptied directly into the tumor. The surrounding tissues, with the layers of coagula constituted the aneurismal walls. In the first place, this was probably a true aneurism of the celiac axis; rupturing, it diffused itself through the cellular tissue, having the muscles for a wall anteriorally, the fascia and peritoneum in front, laterally the body of the lumbar vertebræ and the abdominal muscles; above, the diaphragm; below, the ilium. These were its final outlines when death occurred by rupture.

The history of the case shows that these proportions were attained gradually. In removing the tumor the kidney on the left side could not be found, nor could we find any trace of the supra-renal capsule. There was such a mass of coagula, and our means of examination (by lamp light in a private house) were so imperfect that it was probable that the capsule of the kidney was contained in the coagula. That the function of the kidney had been destroyed for some considerable time was evident by the fact that the right kidney was nearly or quite twice as large as normal. It may have never existed, but as to this we could not examine satisfactorily under the circumstances. The lateral processes of the lumbar region were denuded. The other organs, as far as observed, were normal. No atheroma of the large vessel was noticed.

DISCUSSION.

Dr. Drury remarked that the erosion of the vertebræ was an evidence that the aneurism had existed a considerable length of time before its presence was detected. Although hypodermic injections had been made into the abdomen, and it had been necessary to turn the body partly over to examine the bedsores with which the patient was also afflicted, the aneurism escaped observation. The pulsation was synchronous with the heart's action, but no bruit was perceptible. It was the general impression that the aneurism existed in the abdominal aorta, and even after the body was opened the speaker was of this opinion, on account of the immense size of the tumor; only when the latter was traced to the diaphragm was he informed of its true situation. To him it was still a question how an aneurism in a branch away from the aorta could be so perfectly synchronous with the pulsations of the heart.

Dr, Whittaker said the case just reported showed how obscure some cases are and how obstinate to treatment they will prove. The necessity of making a diagnosis was illustrated in this instance; therefore no more instructive subject could be brought out for discussion, because it might tend to give us a clue for a proper judgment in future cases. Nevertheless the speaker thought the gentleman who had charge of the case just reported must have been satisfied with his treatment, and especially with the use of hypodermic injections, because, whatever reluctance there might have been felt to resort to morphia continually, there could be no objection to its administration in this instance.

An aneurism of the abdominal aorta, or its branches, is a rare affection compared to aneurism in other parts. Of the cavities of the body, the order of frequency of aneurism is as follows: thorax, cerebrum and lastly abdomen. According to Crisp's statement, they occur only one-fourth as often in the abdomen as in the thorax, and then they occur more frequently in the aorta than its branches.

A most interesting point in aneurism is the etiology. Syphilis, alcoholism and gout are the three prominent factors in this affection. The continual ingestion of alcohol is liable to irritate the lining membrane of a bloodvessel, causing endarteritis; but it is still disputed whether the disease begins in the lining membrane or the muscular coat of the artery.

So also uric acid, when it is in excess in the blood produces endarteritis; and the relationship between syphilis and aneurism is well known. This latter fact, justifies the use of iodide of potassium. The symptoms of aneurism are always vague, so that it is not surprising when a diagnosis is not made. When this affection exists it is, however, more readily discovered posteriorly than anteriorly, and only when it grows large in the abdomen is it discernible in front. In most cases, we must depend more on the general symptoms. The proximity to the nerves of the celiac axis was such that radiating pains would likely be caused by pressure, and at one time pain might have been due to occlusion of the gall duct when the tumor reached to the right side. It was hard to see how a diagnosis could have been made before the tumor was recognized.

When an aneurism is present it is not always recognized by early signs; only when a bruit is established or we can examine the tumor laterally as well as superiorly can we estimate the character of the disease. When the symptoms were recounted the speaker considered this at first an aneurism of the abdominal aorta, rather than of the celiac axis. Tumors of immense size are not so common even in the abdominal aorta until they rupture the walls of the vessel. The gradual emaciation was doubtless due to the intense interference with digestion from pressure. The same condition might arise when the celiac nerve is interfered with from any cause. Internal medication could be of no avail; the only indication was to relieve pain.

Dr. Young remarked that this subject was exceedingly interesting to him, because the aneurism that he first saw was one of the celiac axis. It occurred in the hospital at Albany and was diagnosticated by Dr. Hunn, but the speaker forgot on what grounds the diagnosis was based. It was verified, however, at the post mortem examination. He was so impressed with that case that invariably afterwards, when a patient complained of pain in this region, he examined for an aneurism. Thus he was called to attend a woman about sixty years of age, who complained of pain in the stomach, indigestion and other similar symptoms, for which he examined her in reference to an aneurism. He thought he heard a bruit, and after three or four days was almost positive that there was an aneurism. The tumor, however, did not increase in size and after several months all symptoms disappeared. In this case bruit and pulsation were heard and felt over the celiac axis.

Several years afterwards he was again called to see a man in the charge of two physicians, one of whom diagnosticated an aneurism, the other a tumor of the liver. All the symptoms of an aneurism were present, both on auscultation and percussion, (the first person who examined the tumor had only percussed it) that there could be no doubt, and yet when the patient died the post mortem examination revealed an abscess of the liver. These and several other cases where the physical signs of aneurism were present made him rather sceptical, and he took the position that if no tumor was found on examination, he would rely only on that peculiar expanding sensation that attends an aneurism with pulsation.

In the case reported by the essayist, the sound might have been detected before the tumor itself, yet he would have no faith in the symptom unless a tumor could be found. It was always a puzzle to him what it was in his case that gave all the characteristics of a pulsating tumor. Other observers also confirmed the diagnosis which proved that if it was an aneurism the woman recovered, for she was in good health ever since.

The speaker thought it was hard to say what was the condition of the bloodvessel; he doubted if alcohol could set up such a change unless the vessels of the body are thinner than in general. Moreover, in this particular locality, an injury is not likely to be received, although this sometimes occurs in abdominal aneurism. There was no evidence as to the cause.

Treatment could be of no avail. When the tumor is detected, destruction is so extensive as to give no chance for operation. All such surgical interference has proven fatal, and even the heroic surgeons of Germany would not attempt it. The celiac axis is so near the main vessel that a hemorrhage, which necessarily attends an operation, could not be controlled. The history of the case just narrated, with that of other cases, again proves the uncertainty of all symptoms or signs in aneurism.

Dr. Nickles thought that the diagnosis of abdominal aneurism was obscure until symptoms of pressure set in. He had a case at the present time that in his estimation, was one of abdominal aneurism. A man sixty years of age has been troubled for some months with symptoms of dyspepsia, nausea, anorexia, heartburn and accumulation of gas in the intestines; he has an indefinite pain in the left hypochondriac region. The patient improved somewhat under the administration of bicarbonate of soda before meals, and hydrochloric acid one hour after meals; but a few weeks ago, he suffered pain just below the ensiform cartilage, and a little to the left of this region, with sensitiveness to pressure. This pain subsided in a few days under the use of morphia. The parts were more rigid and tense than the right side, but no tumor could be detected. On palpation, however, an impulse could be felt, and on auscultation with the stethoscope a systolic bruit could be heard. At first, the speaker thought the impulse might have been conducted downwards from the heart by the right venticle. The heart sounds are normal, the pulse regular, but the bruit is still then over the lower part and to the left of the sternum, and the speaker is of the opinion that the tumor is now more marked and the impulse more intense. There is no cough, no emphysema, no liver disease. The patient has paroxysmal pains, with absolute freedom from pain at intervals, but when they come on, they are sharp, and extend up to the heart, then along the intercostal muscles from the spine forwards on both sides of the chest; he also has occasionally pains in the back, but never in the lower extremities or abdomen, below the umbilicus. His appetite is good, only he has a fullness after meals, the bowels are regular; no constipation. The speaker put this patient on a course of iodide of potassium, not for its specific action, for the man is neither syphilitic nor a drinker, but because he found that the symptoms were greatly relieved and sometimes even wholly subsided under this treatment. Even if the diagnosis of aneurism be absolutely certain, it is not proper to suspend treatment altogether, and if the symptoms belonging to this affection entirely disappear, we must not assume that the diagnosis of aeurism was a mistake, because abdommal aneurism is occasionally curable, sometimes without any remedies whatever.

Dr. Young replied that he was aware of the greater frequency of aneusim in the male than the female sex, yet the majority of cases that presented these symptoms of well marked pulsation and bruit were females. His experience, however, led him to regard these symptoms as very deceptive, especially in women, because he believed that a bruit could be easily excited in that vicinity by pressure. As for the rest, his patients were also over forty and belonged to the working class.

Dr. Christopher remarked that he lately saw, in a patient belonging to Dr. Schwab, a case of aneurism which presented two interesting features. The patient, a negro woman sixty years of age, had pulsation in the epigastrium and passed a large amount of bloody stools. Dr. S. made the diagnosis of aortal aneurism which was verified by the post mortem examination. A sacculated aneurism was found in the aorta in the vicinity of the celiac axis. It was the size of a small cocoa-nut and communicated by a circular opening, about half an inch in diameter, with the aorta. The cavity was filled with clots which were united by strong adhesions to all the viscera in the vicinity: liver, intestines, etc. Without any difficulty the entrance from the aneurism into the intestine was found to be a small point, situated, not in the duodenum, but in the upper part of the jejunum, a very rare occurrence. According to Simpson, one-fifth of all cases of aneurism occur in the abdominal aorta, and a rupture in the intestines is least frequent, this accident taking place, for the greater part, into the peritoneum. In the case just mentioned, the bloody stool aided the diagnosis of rupture into the intestines. He would ask where the rupture occurred in Dr. Cleveland's case.

Dr. Cleveland replied that the exact point could not be found, but that it occurred somewhere into the peritoneal sac. The facilities for making a thorough post-mortem examination were not at hand.

As evident from the paper, the speaker thought his case was one of gastro-duodenal catarrh, caused probably by the occupation and consequent habits of the individual. If he had suspected the possibility of an aneurism existing, a diagnosis could possibly have been made earlier, but if the sac had not ruptured, constituting a so-called false aneurism, he doubted if a correct diagnosis could have been made. A bruit is not pathognomonic, because he had already felt thrills as if belonging to an aneurism, which was not discovered post mortem; this bruit may be due to pressure if something rests on an artery. In the case reported, the aneurism was so close to the main artery and near the diaphragm, that it would have been difficult to determine its position, even if it had been as large as a fist. The speaker was, however, positive that it increased very rapidly in the last days, for at first the pulsation was felt distinctly only in the lumbar region alone, and in the flank only upon hard pressure; in a week it was also more noticeable in the flank, and finally it filled the left hypochondriac space, so that it was readily determined by percussion. One thing, however, he could not explain, the strength of the impulse compared with the small calibre, not as large as a goose quill, of the artery. The pulsation was so strong as to raise up the hand. He could not account for it except perhaps on the hydrostatic law that pressure depends upon the height of the column of water.

Dr. Young said his theory was that descent gives force; whatever pressure is brought on a quarter of an inch opening will exert the same force on every quarter cubic inch of the fluid contained in the cavity beyond the opening.

Dr. Whittaker added that there were some general points which must not be forgotten to arrive at a correct diagnosis.

First, an aneurism never occurs early in life except in consequence of a traumatism; it is rare before forty. The importance of this point was evident in a case that came under the speaker's notice a few weeks ago. A child was brought to the Good Samaritan Hospital suffering, it was said, from an aneurism of the subclavian artery. This was judged an error on account of age. On auscultation a bruit was heard under the left clavicle, but it proved to be the sound of mitral regurgitation propagated into the left auricle. This was the more probable on account of a history of rheumatism.

Secondly, Aneurism occurs more frequently in the male sex, probably because men are more exposed to the causes of endarteritis, especially if they be heavy drinkers.

Thirdly, It is far more frequent among the working classes than in the easier walks of life, and if it occurs among the latter it is more often thoracic than abdominal.

The speaker thought that in Dr. Nickles' case many things pointed to aneurism, but he himself leaned to a diagnosis of carcinoma. The tumor might rise and fall with the abdominal aorta, and the other symptoms of indigestion also belong to this affection. The stomach is generally full, and if there is no vomiting it is a sign that the carcinoma is not situated at the pylorus. We must bear in mind that aneurism is rare, occurs more frequently in men after forty, and especially with syphilis and alcoholism.

Correction.—We are requested by Mr. Albert V. Phelps, one of the newly-elected resident physicians to the Cincinnati Hospital, to correct the statement made concerning him last week. Mr. Phelps has attended three winter courses of lectures at the Medical College of Ohio, at which school he expects to take his degree upon the completion of his term of service in the Cincinnati Hospital.

THE CINCINNATI
LANCET AND CLINIC
A Weekly Journal of
MEDICINE AND SURGERY,
ISSUED EVERY SATURDAY.

TERMS, $3.50 PER ANNUM IN ADVANCE.

☞All letters and communications should be addressed to, and all checks, drafts, and money orders made payable to
DR. J. C. CULBERTSON,
EDITOR AND PUBLISHER,
281 W. 7th STREET, CINCINNATI, OHIO.

SUBSCRIBERS TO THE LANCET AND CLINIC who have not already remitted their subscription will confer a favor on the publisher by promptly doing so.

Cincinnati, March 1, 1884.

The Week.

COMMENCEMENT EXERCISES of the Medical College of Ohio, will take place at the Music Hall on the evening of March 7th, 1884.

The Alumni will be addressed at their afternoon meeting by the President, Dr. George Sutton, on the "Epidemics that have appeared in South-eastern Indiana, and the change in the type of diseases since 1836."

By the way, why is it that the examinations for the positions of internes at the Cincinnati Hospital should be conducted chiefly by professors in a certain Medical college in this city, when students from the other colleges are competing for the positions? Would it not present a fairer aspect if the gentlemen of the staff, not connected with any college, would conduct the examinations?

What are your reason for the low mortality among children in our city, notwithstanding the high water? is one of the questions propounded at the recent examination for the position of interne at the Cincinnati Hospital. Just how the answer to this question will testify as to a student's knowledge of children's diseases, we confess we do not know. In the first place, there has not been a low mortality among children, when we take into consideration the coolness of the summer. In the second place, the question is notone which should be put to students, a number of whom are unacquainted with the sanitary and climatic conditions, a knowledge of which necessarily underlies a rational answer to the question

MEDICAL BILL.—The Academy of Medicine indorsed the Scott bill for establishing a State Board of Health and Examiners, with a few unimportant exceptions. Now it remains to be seen whether our State Legislature has enough interest in the subject to pass it. If so, we will soon be abreast our sister States in regard to sanitary and medical affairs.

THE colleges are now grinding out their annual grist of doctors. There is little danger that the supply will fall short of the demand.

CINCINNATI HOSPITAL INTERNES.—At the recent competitive examination for the six positions of resident physician in the Cincinnati Hospital, three of the successful contestants (Messrs. A. V. Phelps, J. J. Maloney, and Frank Hendley) were students of the Medical College of Ohio.

THE AVONDALE MURDER AND ITS MEANING.

A little more than a week ago this community was startled by the first suspicions of a crime so terrible, so dastardly, and so monstrous that many of the reading public hesitated to give credence to what might be a mere newspaper sensation, originated for the desire of adding reputation to a particular journal or of increasing its daily circulation. A few days' careful inquiry, a thorough and active search on the part of the legal officials, and some timely arrests, led to the revelation of an offense so heinous as to leave us all appalled at its enormity, and to make us question whether our boasted enlightenment and civilization are not carrying us rapidly backward to the most degraded period of the Dark Ages.

We presume that most of our readers are sufficiently familiar with the entire details of this disgraceful affair, and confine ourselves to a recapitulation of the leading facts. A peaceable, harmless family of colored people, named Taylor, consisting of an aged couple and their grand-daughter, occupied a small cottage in the suburban village of Avondale. Their dwelling was situated at some distance from the main road, in a rather lonely position, from which sounds could not readily be heard by their nearest neighbors. On Friday night this cottage was consumed by fire, and with it there disappeared, most mysteriously, all trace of its inhabitants. The most rational idea was that they had fallen victims to the devouring element, a view the more readily entertained, as it was known that the aged grandfather was a cripple and scarcely able to leave his chair. The ruins were carefully examined, but no trace of human remains discovered. A search was made to discover if, by some lucky chance, the inmates of the burnt dwelling had found shelter with any friends, or with their daughter, living in this city; yet they could not be found. The Marshal of the village, with most commendable energy and perseverance, finally visited the medical colleges, to learn if any bodies had been received which might correspond with those of the missing parties, and finally succeeded in discovering, in the Ohio Medical College, the bodies of those whom he was seeking. His discovery received a new and most startling character when it was noticed that all the bodies bore evident marks of having found a violent death, and it was a very short labor to fasten the guilt of the triple murder upon two colored men occupying homes near that of the murdered family, who soon confessed this most dreadful crime.

Were this all that could be said of the murder, we had not opened our columns to record what has latterly become, in this city, a common, if not an every-day occurrence. At no time, in our memory, has human life been held so cheap, at no time has the murderer defied the law with more impunity, at no time has he entered upon his trial with so much confidence of final acquittal as at the present. Not ours the task of seeking to fasten the responsibility for this farcical administration of justice, or of endeavoring to remedy a state of affairs which the citizens of Cincinnati have tolerated for a number of years, and which they will continue to tolerate until some vast, gigantic crime, more terrible even than this which we narrate, shall rouse them from their criminal lethargy and drive them to seek redress at their own hands, nor longer wait until a flimsy trick of what our legal brethren call a law, shall cheat them of the justice they vainly seek.

Our County Jail holds five self-confessed murderers, and yet, as we write, an entire *venire*, summoned as a jury in one of the trials, has been discharged because of an error in spelling one of the names of those called as jurors. The county is put to the expense of this needless delay, which the lawyers justify, and another day set for trial. What need can there be of passing through these worthless forms, of wasting time and money, that twelve sane men shall pronounce judgment upon the confession of two criminals, who have openly admitted that they were the instruments by which a law-abiding citizen came to his death, a victim to their desire for his money?

Less than three months ago a man was shot by one of a crowd because he endeavored to stop an altercation between two others of the party, and his murderer rather enjoyed seeing the fight proceed. It was a most cold-blooded murder, The evidence all went to prove most clearly that there was not the slightest provocation for the shooting; the wounded man had not had any difficulty with his murderer; there was no long-standing feud that suddenly found vent in this explosion; there was not any cause, save that the murderer did not brook interference with his noble pastime of witnessing a fight. That murderer is now enjoying comparative liberty, having been discharged from jail under a bail of $12,000. His trial has been postponed four times, and will, not unlikely, continue to be postponed, until witnesses shall have disappeared, the public shall have forgotten the particulars of the occurrence, and the principal in the affair cease to be a prominent figure in our long calendar of crime. The distinguished gentleman will then emerge from his bondage, which has been made considerately light, his case will not come up for trial, and he will walk the streets of Cincinnati a free citizen, ready to repeat his very successful experiment at the next favorable opportunity, and firmly convinced that our criminal law is an admirable institution, since it affords abundant protection, not to the majority of its good citizens, but to that conspicuous minority which is unfortunate enough to be charged with, and to be guilty of, most flagrant crimes.

We draw no fancied picture. It is a matter of history that in the middle of last summer, our city was the scene of five murders in as many successive days, and the newspapers, in giving the history of the lives of those concerned, either as principals or victims, were obliged to chronicle the damnable fact, that in nearly every case the man who had violently met his death had previously killed a fellow-citizen, and had never been tried for this offence.

It will be asked of what purport this lengthy disquisition; what reference has it to the Avondale murder? It has to our mind the greatest importance in this connection, for it is the hidden and unseen influence, which encourages murder by withholding the adequate punishment. Better, a thousand times better, the old Hebraic law, "An eye for an eye and a tooth for a tooth," than that the low-minded and criminally inclined should see the easy realization of their wicked desires, through a lax and impotent administration of so-called justice. There can be no question that moral suasion is an efficient aid to virtue only to the highest and best educated minds; the majority of mankind are only to be led through fear of bodily punishment and bodily pain, and the punishment must be meted out in direct proportion to the crime.

The Avondale murder has derived a tragical, and, to the medical profession, intensely interesting meaning, in that these poor colored people were murdered by a pair of professional resurrectionists, for the purpose of selling their bodies as material to the Demonstrator of Anatomy of the Ohio College, with whom they confessedly had had previous dealings. If anything could add to the horror, with which the entire profession must regard such a traffic in human life, it would be that the sale was effected while the unfortunate victims were still alive, entirely unconscious of the dread fate that was soon to overtake them. It is on evidence by the testimony of Dr. Cilley, and of the murderers, that the Doctor was approached in the afternoon of that eventful Friday, and asked if he could utilize the material, to which he gave an affirmative reply, and promised the usual pecuniary compensation, which, we believe, is fifteen dollars for each body. These paltry forty-five dollars constituted, to the murderer and his confederate, a sufficient incentive to sacrifice three human lives. A wagon was engaged to bring the bodies to the College, and the two confederates proceeded, at about half-past seven in the evening, to the execution of their diabolical plot. Resistance was not to be expected at the hands of the aged couple, nor at those of the young girl; the killing was easily and quickly accomplished by the aid of a locust club, each of the unfortunates being beat about the head, until life was extinct. The bodies were quickly stripped, thrust into coffee-sacks prepared for the purpose, and the wagon having arrived at nine o'clock, the appointed time, was laden with its human freight and driven up the road, when one of the murderers went back, fired the cottage to destroy all trace of the crime, rejoined his companion and the driver, and the trio then proceeded to the College, where the bodies were delivered to the Demonstrator according to agreement.

Dr. Cilley has played so important a part in this occurrence, that we cannot omit devoting a few words to him and to his share in the responsibility for it. The public mind has been sorely exorcised over the resurrection of its dead. From time immemorial the care of the dead has been considered as the most sacred trust incumbent upon the living; in witness whereof we have the grandest monumental tombs, often the only marks left us of the very existence of an ancient and now extinct people. The records of all nations show with what innate, almost superstitious, reverence the bodies of the dead were cared for according to religious usage, and what an unhappy lot was theirs, who, in a future life, were doomed to suffer, because their bodies had not received the proper attention in that way of sepulture. It was thought that the punishment of delivering the bodies of those executed for capital crimes to medical schools for dissection, would aid still more in deterring from wrong-doing, and the Christian church early took the precaution of perpetuating this respect for the bodies of the dead, by preaching the doctrine of the resurrection of the body.

To many enlightened minds of this later day, who hold the view commonly known as materialistic, it can matter but little, what disposition is eventually made of this mold of earthly clay, provided it be not one that will prove injurious to the great majority of survivors. To them the thought of final dissection has no terrors. But it has always been the principle of civilized communities, especially in republics, that the will of the majority should make the law, to which all must bow, and the care of the dead body has also been respected by those, who could not justify in their own minds any religious precept for this action. Whatever the religious belief of any man, however free his interpretation of a future life, untrammelled as his view may be by inherited superstition, no member of the medical profession can afford to allow such an action as this to go by, without recording his strongest disavowal of any sympathy with murder as a means for procuring material for dissection.

He must do more than disavow; he must condemn in strongest terms the most remote cause for such a crime, as well as the principals engaged in its execution. The doctor is but human; and it was first and foremost with a wish to give tangible and unmistakable expression to this sentiment of indignation and horror, that these lines were written. We feel that we do but utter a common opinion, that it were far better that no human body should ever again be used for dissection, than that the impression should be left in the public mind that the profession are willing to lend even a passive aid to such base and awful methods of obtaining bodies. We feel assured that the possibility of the occurrence was so far from presenting itself to the mind of any medical man, of Dr. Cilley himself, that he would have scouted it as a fable, were there not the convicting evidence of the prisoners themselves.

We cannot afford to let this stigma rest upon us. The public is thoroughly aroused, and it is right that it should be so. No one recognizes more clearly than we do the inestimable value, nay the constant necessity of allowing each medical student to learn his anatomy from the human body itself, but we certainly would favor a law closing every dissecting room in the country, were there any likelihood of a repetition of this appalling murder. The public cannot absolve Dr. Cilley from some connection with the crime, and in its usual discriminating fashion it is ready to make the entire profession shoulder the responsibility for the Demonstrator's part. It argues, that were there not held out to these men a promise of certain recompense, and perhaps of some influential protection, in case of trouble, they never would have found a motive for the murder, and by just so much as this promise was made, by just so much is the Doctor an accessory and accomplice of the murder. We cannot regard the matter altogether in this light, believing, as we most sincerely do, that the Doctor entertained no suspicion of the way in which the promised material was to be obtained.

Granting this, and admitting his blamelessness from any direct connection, it will yet be difficult to absolve him entirely from a certain amount of moral responsibility. The prisoners testify that the Doctor admitted to them that he was sorely in need of material, that they explained to him the difficulty of obtaining it, and that he then said he must have it, even though it should be necessary to knock some one in the head. This was, of course, said as a joke, and without any further thought on the Doctor's part; but a joke is apt to have a peculiar significance when presented under such circumstances to men whose daily occupation has long since taught them to sacrifice all respect for the human body, when dead, and to entertain for it very little more regard when alive. To minds prepared as theirs had been, the thoughtless seed dropped on ground, only too willing to receive it, and bore most dreadful fruit.

The public will not rest content with this state of affairs. It will recall to the profession, that not many years have passed since the medical colleges of the State of Ohio were given the benefit of an Anatomy Act, whereby the unclaimed bodies of those who die in any of its public institutions shall go to the medical schools to be distributed according to the respective number of their students. There has always been the greatest difficulty in obtaining an adequate supply of material until such acts were passed, and in England, some forty years ago, when a similar anatomy act was before the English Parliament, the famous Sir Astley Cooper declared before the assembled house, that, such was the scarcity of bodies obtained for dissection, and such the price paid for them, that individuals engaged in the nefarious business of grave-robbing would not hesitate to risk life and limb and liberty, to obtain the stipulated recompense; that he had not the slightest hesitation in stating that, for a given price, he could obtain the body of any member of that house, notwithstanding his high birth; and furthermore, that the same parties, who would do this for him, would, after his death, deliver his body up to the next anatomist, although he, Sir Astley, had been during his life their best patron.

The Ohio State Legislature, influenced in part by the excitement and scandal attending the finding of the body of John Scott Harrison, son of an ex-president of the United States, in the Ohio Medical College, passed this anatomy act, for which the profession was at that time and has continued to be, truly grateful. It has not under-estimated the feeling of the public, and has been content to accept the law, such as it was, although its defects are still very apparent. If now, the lives of harmless, law-abiding citizens are to be jeopardized, that more material may be obtained, what benefit has the public derived from its liberal and fair-minded action? It has not only failed to secure an undisturbed rest for its precious dead, but it has been unable to preserve the lives of its citizens from the rapacity of the grave-robber, and it will ask itself whether the better policy were not to increase the restrictions, rather than show a generous spirit and meet its physicians on the fairest terms?

We certainly think not, and we would deprecate any hasty action in regard to the subject, because of this dreadful and unwarrantable crime. We must, however, express our belief that were the law properly administered, were records kept of all the bodies distributed to the schools under its provisions, it would be found that the State institutions annually furnish sufficient material to fully satisfy its entire number of medical students. If a bureau of registration were established, this subject searchingly examined, and our presumption proven to be correct, the grave-robber would cease to exist in the State, for his calling would have become useless. We invite most serious attention to this matter, as one demanding immediate action, and we believe the study of anatomy, far from being hindered by such registration, would only gain in value. We believe that the public would look with less disfavor upon knowledge that must be acquired, even at the expense of the finer feelings of our nature, if it should learn that its own dead were free from all possible mutilation, and that the necessary dissections were limited to the bodies of those who left neither relatives nor friends to mourn their loss.

The law is inefficient as it stands, since it enables many to rid themselves of a poor, sick relative, whose nursing might prove an unpleasant charge to the members of his family; it allows them to put this individual into a public institution, where he is maintained at the city's or county's expense; it gives them the right to totally neglect their helpless invalid during his lifetime, to make no inquiries, nor satisfy themselves personally of his condition, and when, after he shall have received the best of attention from competent sources, shall have lived on the city's charity for weeks or months, he finally dies, this same law empowers the heartless relatives, who were pleased to ignore their unfortunate connexion during his lifetime, to step in, claim the body, and thus prevent any other disposition of it. To be thoroughly just the law should refuse to those, whose relationship is not sufficiently strong to allow of their manifesting any interest during the patient's life time, any right to obtain the body after death.

There are other questions of great legal importance, which, as they will probably come up in the trial of the case, we merely outline here, and refrain from discussing, since that would only forestall the action of the courts in the matter. The daily journals have paid considerable attention to the question of rigor mortis; have sought to ascertain whether or not cadaveric rigidity had set in at the time the bodies were received, and whether the natural body-heat had all been dissipated in the short time that elapsed between the commission of the murder and the landing of the bodies in the college; whether it was possible for the doctor to overlook the very apparent marks of violence, and whether he could not then and there have determined, from the nature and appearance of the wounds, that death had been very recent, and directly occasioned by those injuries; whether the omission to observe these things was not in itself a criminal carelessness and did not seriously inculpate him in the murder.

The testimony given by Dr. Cilley at the Coroner's inquest was to the effect that he did not observe whether the bodies were cold or warm; that the hour was late (he places it at eleven o'clock); that he merely looked at the bodies and paid no especial attention to the wounds, which they presented; that the bodies were merely brought in, laid upon the floor, and left there until the next morning; and that it was only after the Marshal of Avondale had come to make personal inquiry of Dr. Cilley, that his suspicions as to the cause of death were aroused. There are several features in the story which could well bear a more thorough explanation than the one given; and we can only hope, for the credit of the profession, and in particular of Dr. Cilley, that he may be able to explain satisfactorily those parts of this sad history which now appear most unpromising.

What makes the demand for so many bodies? The answer is perfectly plain and clear. It is the large number of our students—a number far too large to allow of a successful career for only one-fourth of the entire number of those engaged in medical studies. If the public were only so far alive to its own best interests as to jealously guard itself from the practice of many poorly qualified practitioners; if there were provisions made to secure, firstly, intelligent students and then intelligent practitioners; if a regulation of medical practice could be secured, such as to demand a preliminary examination before permitting entrance to a medical school, the number of students would quickly diminish, but it would diminish to the advantage both of the profession and of the public, which might then place the lives of its dear ones into the hands of men thoroughly equipped in the study and practice of their profession, to conduct disease to its most favorable termination. To this diminished number of educated and scientific young men, the material furnished by the State Anatomy Act would more than supply every want.

We leave the matter here. Not that we have given full expression to all that was in our thought; litigation is pending, and, as before said, we await the action of the court before expressing any further opinion. We feel confident that we have not been mistaken in representing the sentiment of the profession with regard to this dastardly affair, and we hope that it will make known its meaning, and speak with no uncertain sound. We have found the English vocabulary inadequate to express fitly our detestation of the direful crime, and we trust that no stone may be left unturned to ferret out the full particulars of the grave-robbing business—for such it seems to have become—in the hands of men guided only by that execrable passion, which Virgil early mentioned as the *sacra auri fames* (the impious thirst for gold).

If there shall grow out of this a registration such as we have proposed, we think much good will already have been accomplished; but as for the criminal aspect, we can expect but little improvement until our laws shall not be merely engrossed upon the statute-books, but shall be promptly and vigorously enforced; until it shall not become necessary to have a wife murderer three times convicted of murder in the first degree, and then be compelled to listen to arguments for a fourth trial; until all human patience and human forbearance shall not be strained beyond the farthest limits, and even the most peaceably inclined shall find his only remedy in that dreadful but efficient refuge of violated justice—lynch law.

JOSEPH EICHBERG.

Selections.

SURGERY.

NEPHRITIS ARTHRITICA.—An address delivered before the Berlin Medical Society, Dec. 19, 1883, by Rudolph Virchow, M. D.

If one seeks in literature for the history of the changes that take place in the kidneys and urinary organs in gout, one will find very little satisfaction, for the reason that the relations are somewhat mixed up. It is especially confusing that the question of uric acid concretions, which are met with in the form of gravel, renal or vesical calculi, has been introduced into the subject, and concerning which, the opinion for a long time has been constantly cropping up that they have some close relationship to gout. My experiences, which, on this subject, have been principally of an anatomical nature, have not led me to recognise this relationship. So far as uric acid vesical calculi are concerned, the number of cases in which they are met with in undoubted association with gout is very insignificant. In the majority of the calculi, no gouty connections can be verified. In regard to concretions in the pelvis of the kidney, and in the calices, it is not proved that any considerable deposits have any connection with gouty conditions, and inversly, it cannot be said that a gouty patient is in any danger of acquiring such deposits. Should, however, such a connection exist, one should not exclude the fact that only a small number of concretionary formations coincide with ostensible cases of gout. In regard to the manifestations of gout, I would remark upon one circumstance that has not received sufficient attention in literature, namely, upon the relative frequency of forms of gout, in which the usual paroxysmal attacks have occurred. I was first led to notice such cases by the circumstances that not unfrequently, on the dissecting table the most varied changes were present in persons concerning whom suspicion of gout had existed in the minds of the medical attendants. During the years in which I had a department of the Charite, I saw a not inconsiderable number of cases of gout during life, in whom evidences of the disease came to light as very striking, more or less anatomical phenomena, without paroxysms even having been observed in them. I caused some cases of this kind to be made the subject of a dissertation in 1868 by Hartman. In these cases, the various parts of the body affected were painful, it is true, but the condition showed no kind of paroxysmal onset, and did not correspond in any way to what is generally designated joint-affection, podagra, etc. Examination of the various conditions everywhere, showed that the mass of these tophi was composed of a pultaceous mortar-like substance, which examined under the microscope, was found to consist of urate of soda. In regard to terminology, I would remark here, that the old name topas arthriticus is perfectly justified. In this motar-like mass lies the difference that seperates this form from all the other forms of nodes and exostoses that consists of actual bone substance and are organized formations. These characteristic deposits, which consists of urate of soda, have never yet, with absolute certainty, been met with in the human body, without, at least, a suspicion arising that we are dealing with a case of gout, and generally the suspicion can be proved correct. In the meantime, we must necessarily discriminate between the paroxysmal course of gout and the latent course in which no paroxysms appear, but changes gradually take place which are frequently greater than those we meet with in paroxysmal gout.

Up to a certain point, it may be possible that this division corresponds to that of a rich man's gout and poor man's gout (*arthritis divitum* and *arthritis pauperum*) a division that people have attempted so to define in another way, that *arthritis pauperum* has been made synonymous with *arthritis deformans*, which give rise to spotaneous bony out-growths. In my opinion, however, we must distinguish in the chronic form between the ordinary *arthritis deformans* and the specific uric acid arthritis, and sharply separate the one from the other, for after the most careful observation, I have only been able to verify in a joint the simultaneous appearance of both kinds, *i. e.*, growth of bony structure and deposit of uric acid salts in a single instance. If it is wished to bring these processes into a kind of theory, one can, without doing violence to facts, so represent them that the forms that are ushered in by violent attacks, occur in persons in whom a large material of nitrogenous substance is awaiting the disintegrating processes within the body, and, as the opinion is a ruling one, that gout stands in some relationship to excessive indulgence in the pleasure of the table, and immoderate consumption of nitrogenous foods, it may be thought that the violent course and stormy manifestations are dependant on increased supply of albuminates, while in the case of poor people, it stops short of violent eruptive appearances, and takes on a more chronic course. From my earliest observations on the living, I have reached the conviction that the theory that makes gout principally dependant on a luxurious consumption of albuminates, is erroneous, for I have met with it in prisoners who had lived for years in the most miserable circumstances. The peculiar disposition of the body then that is the cause of this increased production of albuminates, is in no way dependent on the richness of the supply, but there must be some other condition at work, concerning which I am not in a position to speak. If, in the meantime, it is assumed that a certain disposition is present, it must, at the same time, be confessed that it can be operative also under conditions of want and poverty, in which the quantity of albuminates never takes on the character of luxury or of excess.

Now, as regards the kidney in connection with these conditions, we have this special peculiarity—that the salts are deposited in the substance of the kidney, and, in fact, in the urinary tubules. When Ebstein defended the opinion that such deposits were present in the interstitial tissues of the kidney, I remarked in oposition to him, that I had never seen this. The dedosits in the urinary canals are really found in the pyramidal substance.

On section, you will often see, even with the naked eye, in the center of a pyramid, some strikingly white streaks, which sometimes seem to be so thick that to some extent, you are able to recognise the granular matters, and so large that you can raise them up with the point of the scalpel. Under the microscope, it is seen that they do not form fine acicular deposits, but tolerably large rhombic columns. They are colorless, and considerable numbers are generally united together to form such a small plug. By careful section through the substance you can easily convince yourself that these bodies lie in dilated parts of the tubules. When this condition is met with, the joints are always examined, and with surprising frequency a great number of places are found in which the joints also exhibit these deposits.

In regard to these conditions, the question arises, whether such proof of the presence of crystaline plugs is sufficient to prove that the individual has suffered from arthritis. In this respect, I agree that my data are, to a certain extent, defective, owing to a limited employment of the anatomical material at my disposal, but I have ascertained that some cases occur in which I have not succeeded in discovering in their usual sites—in the knee-joint, for example—any such deposits, in which the plugs in the kidneys alone had given rise to the suspicion of gout. These cases, however, are so scattered that I cannot resign the thought that there may still have been parts of the body in which such deposits were present Perhaps, also, there may be arthritis without the joints being affected. The view has nothing self-contradictory in it; for if we are compelled to look upon gout as a process in which large quantities of urate of soda are formed which are first found in the blood, it cannot be a question for dispute, that under certain circumstances the greater part of it may be excreted, and only occasionly one or another deposit in the kidneys, testifies that such a series of processes has taken place. I freely acknowlthe deficiency of these proofs, but there is at present no other condition known capable of accounting for these constitutional changes.

If we examine more thoroughly the kidneys, in which such deposits have taken place, we perceive that further structural changes have taken place, most of them referable to chronic interstitial nephritis. They are not by any means found in the same localities as the deposits, but far more on the surface of the kidney and they dip down into the cortical substance. You see depressions with small citatrix-like processes originating, whilst in the interspaces, the kidney parenchyma may be quite intact. In itself the knowledge of such a kidney is of no small interest, for the reason that, as is known, such a cicatrix is not unfrequent, but we only know with certainty of two other affections in which it takes place—(1) the endocarditic, and (2) the syphilitic form. In the cicatrices themselves, there is nothing that affords proof that they have any connection with arthritis, and the association of the cicatrices with the deposits is the first thing that affords a justification of the view that the process is arthritic. As the processes are multiplied, diminution in the size of the kidney at last takes place—an atrophy that only differs from the granular form by exhibiting a coarser limitation. The cortex is now no longer the part affected, the processes strike deeper, the whole substance atrophies, and microscopically you find a large number of glomeruli in process of destruction, and having capsular processes; the final result is a tolerably high degree of renal atrophy. I will not deny that under such circumstances, a parenchymatous nephritis may come on that is analogous to the infectious form. I have seen a quite acute form of this kind which was in direct connection with arthritis, but I am aware from reading and from my own observation on the living that albuminuria occasionally occurs along with arthritis. I would make the statement provisionally that there is an arthritic nephritis without arthritis, and without other manifestations of it.

In discussing the question what the element may be that gives rise to the inflammation; although the one process is mainly met with in the cortex, and the other in the canals of the pyramidal substances, we should not conclude that the uric acid crystals are the irritative element that sets up the inflammatory processes. We can assume that the *materies* causes the separation of the uric acid salts, and that these excite the inflammation. But it is to be pointed out that the localities in which the processes play this part are varied. In every arthritic joint, the deposits of uric acid salts are principally formed on the cartilage and on the ligamentous apparatus around the joint, *i. e.*, in the extra-vascular parts, they, moreover, penetrate within these, and do not form a simple external deposit. But these are not the parts in which the inflammation originates, it is the synovial membrane in which it commences. If we examine a joint in an early stage of an attack, we find great redness of the synovial membrane with some degree of purulency, but no urate of soda. I believe it is not the completely separated solid crystallized urate of soda, but rather the still dissolved fluid, that is, the *materies* that gives rise to the inflammation. Then one can only conceive the process as taking place in the kidneys. Not those localities that contain crystals are the seat of the nephritis, but it developes outside of them, That the irritant resides in the pecular property of the excretions, however, I am so fully convinced, and I am strengthened in my conviction by my own illness of last year. I have never in my life, had an attack of gout, but have occasionally had a slight painful puffiness, but never diminished power of movement of the joint. During the course of last year, an irritation of the bladder first came on, with a good deal of urgent desire to micturate, and occasionally burning pain along the ureters. The urethral orifice became red, but I did not consider this of much importance. When, a year ago, I had a severe attack, the result of external causes, after the pyrexia had passed away, a very violent irritation of the urininary organs came on, which was associated with a great deal of purulent discharge, but without sediment, so that what was passed looked like pure pus. I had at the same time, urgent desire to micturate, and great pain during the act. The medical attendants exhausted themselves in conjectures as to the cause. One day after I had passed a small purulent mass, I began to examine it microscopically, and found nothing but round cells with great power of movement. I accidently added a little vinegar, and was surprised to find the whole field of vision suddenly covered with crystals of uric acid. My first thought was that an energetic alkali was required, and I at once took a strong dose of borate of soda, and from the next morning I passed no more pus, nor produced cylinders. From this, I think, I must draw the conclusion, that the great over-loading of the system with uric acid salts in solution, had produced a strong irritation, and finally a purulent catarrh of a most violent form.

In regard to diagnosis, there are conditions in the kidneys in which, in like manner, bodies like those described, are met with. There is the condition in which lime is deposited in the kidney. In the calcareous kidneys, the lime is indeed always found in the excretory passages, but there is a certain difference between them. The most frequent form is that in which thick, white points are met with at the apices of the papillæ, which often pass on into a grumous mass. This condition is found in calcification of the *tunica propria.* Such a tubule has its lumen patent, but it has no epithelium. The cause of the calcification lies in denudation—the epithelium is dissolved in the catarrhal process, and expelled with the urine. In the second form, the lime lies within the tubules. The condition is frequently met with in the cortical substance, very frequently in the capsules of the glomeruli, so that these under backward presure of the glomerules become more and more filled with calcareous salts, in such a way that one can see these white patches on the snrface of the kidney. This form not unfrequently exists in connection with chronic nephritis, like that with arthritis, which is only distinguished by the greater disposition to form small cysts. The urinary tubules form varicose bodies, which shut themselves off from the rest of the tubule and thus form cysts. —*Medical Press.*

ANAL FISTULE IN TUBERCULAR SUBJECTS. In a communication made to the Société de Chirurgie de Paris, and published in the *Compte Rendu Général*, January 2, 1884, M. Jeannel gives the details of two cases of operation for anal fistule in consumptives, one being in an advanced stage, and the second in the early stage of the disease. In both the wound refused to heal, but the general condition of the patients was improved.

From a therapeutic standpoint, these cases would seem to be successes, and to dispel the widely spread fears which are entertained by the laity, as well as by the profession, in regard to surgical intervention in the class of subjects under consideration. That conflicting views are held as to the propriety of interference, is a fact well known to our readers. While some surgeons maintain that not only the local but the general condition is ameliorated, others of equal experience and reputation condemn the operation, basing their opinion upon its inherent dangers and upon the ill-effects produced upon the lungs by the suppression of a sort of natural issue. In point of fact, in some cases, the operation may prove to be both a surgical and a therapeutical success, that is to say, the wound may close, and the pulmonary symptoms improve. In other cases, the fistule refuses to cicatrize, and the pulmonary lesions may either undergo no change whatever, or be aggravated. Hence, the entire question resolves itself into one of indications. If the local suffering be slight, an operation should not be thought of; but if the local distress be considerable, it should be resorted to, even if there be little prospect of healing of the wound. —*Medical News.*

MEDICINE.

THE CAPILLARY PULSE.—In a dissertation recently presented to the Paris Medical Faculty, and commented upon in the *Gazette Hebdomadaire de Médicine et de Chirurgie* (Dec., 14, 1883,) M. A. Ruault draws attention to the physiological and clinical characters of the visible capilliary pulse. It is well-known that, under normal circumstances, the flow of blood, which is intermittent in the arteries, becomes apparently continuous in the capillaries. It has, however, been proved by Frank, Fick, Mosso, and other, that the volume of every organ is slightly increased during each contraction of the heart. This physiological capillary pulse can be felt easily in the hand or foot when these are compressed with a tight glove or shoe. In certain cases the pulsation becomes visible, especially in the subungual tissue of the fingers and on the skin of the forehead; but they may be observed also on the inner surface of the lower lip, in the fundus of the eye, and on the skin of the abdomen, thigh and hands. A physiological pulsation can often be elicited and seen in the pulp of the fingers by pressing them gently against a decanter full of water, and looking at them through the fluid and glass. This experiment succeeds best when there is some temporary cardiac excitement; for example, during digestion. Another method, described by M. Gautier, consists in freezing a finger with an ice-bag. When the finger begins to thaw, subungual pulsation become visible, and lasts some hours. Lebert was the first to notice capillary pulsation on the cheek of a patient suffering from aneurism of the aorta. Quincke, in 1868, and Becker, in 1871, published papers on the subject; while M. Gripat showed that subungual pulsation were most marked in cases of aortic lesions. An English practitioner then had the idea of studying the capillary pulse on the red patch which appears on the skin of the forehead after it has been rubbed with the finger. Alternations of redness and pallor become visible on the border of the patch. The patient must be placed at some distance from the observer, and in good light. Under some abnormal circumstances, the capillary pulse becomes very apparent and nearly constant. This is especially the case in compensated aortic regurgitation; there are then hypertrophy and dilatation of the heart, diminution of elasticity of the arteries (with or without atheroma,) and spasmodic contraction of the capillary vessels. All these conditions, as will be seen hereafter, are favorable to the appearance of capillary pulsations. The pulsation may be useful for diagnostic purposes when there is considerable dyspnœa, and when pulmonary *rales* or pericardiac friction sounds prevent a satisfactory examination of the heart. Dr. Tapret is said to have diagnosed an aortic lesion in one of his friends by simply noticing capillary pulsations on the red mark left on his forehead after he had taken of his hat.

It must be said, however, that the capillary pulse cannot be considered as quite characteristic of aortic regurgitation. M.

Ruault has seen it in three cases of interstitial nephritis with arteriosclerosis, in two cases of arterial atheroma, and in two of chlorosis; but, in all these, the pulsations were less marked than in aortic regurgitation. M. Legroux has observed several cases of well-marked aortic regurgitation where no capillary pulse could be detected. On the other hand, he has seen it appear, and last several days, in a case of extreme anæmia from uterine hæmorrhage, and in typhoid fever, when the temperature was high; also in atheroma of the arteries without aortic lesion, in general paralysis, chronic lead poisoning, and tabes. M. de Brun has observed a case of hemiplegia from pulsations on the sound side only. Basing himself on some experiments of Marey and Frank, M. Ruault emits the opinion that the capillary pulse can only occur when the elasticity of the capillaries is diminished; a spasmodic contraction of the arterial walls can counterbalance, and even annihilate, the effects of their elasticity. It has been proved by Frank that in compensated aortic regurgitation the arterial pressure is increased, and that the capillaries are in a state of permanent spasmodic contraction; their lumen and their elasticity are both diminished, while the systole of the heart is normally strong. Under these circumstances, the flow of blood becomes markedly intermittent in the capillaries. This theory is supported by the fact that, in two patients of Dr. Trapet's, the capillary pulse disappeared for a time after an injection of morphia. On the other hand, M. Ruault's theory does not explain the occurrence of the capillary pulse in anæmia and typhoid fever, so that farther observations are called for, and promise to lead to interesting results.—*British Medical Journal.*

INCOMPATIBILITY OF SULPHATE OF QUININE AND IODIDE OF POTASSIUM.—In a communication to the Biological Society, M. Rabuteau calls attention to the ill effects of iodide of potassium and sulphate of quinine, when administered together or at short intervals. These effects are, on the part of the digestive organs, anorexia, nausea, epigastric pain, colic, and sometimes vomiting; on the part of the general system, *malaise*, slowing and feebleness of the pulse, pallor, and a sense of fatigue. These results are due to the decomposition of the iodide and the liberation of free iodine. This decomposition takes place, not alone in the stomach, but goes on in the intestine also.

The same result occurs from the use of an iodide sophisticated with an iodate of potassium. Iodine is set free, and to the action of this is to be referred the local and systemic effects above mentioned.—*Medical News.*

CAFFEINE.—Dr. Leblond (*La Tribune Med.*, November 18, 1883) thus sums up a series of papers on the physiological and therapeutic proportions of this article:

1. Caffeine is an excitant of the nervous and muscular system.
2. It diminishes the frequency of the pulse, increasing the force of the heart-beat and blood pressure by the vaso-motor contractors.
3. It lowers the peripheral temperature.
4. It has no influence on the formation or excretion of urea.

Of the poisonous dose:

1. Caffeine exaggerates the excito-motor force of the spinal cord, paralyzés the peripheral sensative nerves, and diminishes the sensibility of the pneumogastric.
2. It causes a rapid lowering of the blood pressure through paralysis of the vaso-motors.
3. The heart in cold-blooded animals, beats slower and slower, to be finally stopped in systole; in warm blooded animals, it becomes quicker at the close and stops in diastole.
4. It produces tetanic contraction of the muscles.
5. It rapidly lowers the temperature.
6. It increases mal-assimilation.

As a therapeutic agent.

1. It is, as a rule, tolerated much better by the system than is digitalis, and by beginning with small doses, there is no fear of the bad effects often produced by the latter.
2. It steadies the heart, increasing its force and slowing its beats.
3. It produces more or less of a diuresis.
4. Not only is it a substitute for digitalis, but it should *always* be administered in serious cases which may result in immediate death, because its action is surer and more prompt than that of digitalis.
5. It is best to administer the caffeine in small broken doses, in portions or subcutaneous injections, and to never begin with a stronger dose than twenty centigrammes, to determine the susceptibility of the

patient, then to increase the dose rapidly, if necessary, to from fifty to seventy-five centigrammes. It is useless to give more than 1 gramme 50.

6. In affections of the heart it should always be administered when, from any cause, the patient's condition requires that the use of digitalis should be stopped or when it is not well tolerated.

7. Caffeine seems to lower the temperature in pyrexia, being useful also in these cases as a heart tonic.

8. It is frequently very beneficial in albuminuria of cardiac or other origin.

9. And finally, in cases of strangulated hernia it seems to act upon muscular contraction of the intestine.—*Medical and Surgical Reporter.*

ELIMINATION OF MERCURY DURING AND AFTER ITS CUTANEOUS EMPLOYMENT.—SINCE the year 1881, Dr. Schuster, of Aix-la-Chapelle (*Journal of Venereal Disease*), has made more than 100 examinations regarding the elimination of mercury in syphilitics, who were either still under treatment by mercurial inunction, or had been so treated from one to twelve years. Most of the patients had used mercurial ointment for the inunctions; in a few, where examination did not reveal traces of mercury in the urine, the drug was employed subcutaneously. In the urine, the writer states that he found mercury in small, rarely in large quantities, and not only during, but also some weeks after the mercurial treatment. Often, however, the mercury was *not* found in the urine, either during or after the treatment. He concludes:—1. mercury is irregularly eliminated by the urine—result already pointed out by Vajda and Paschkis. 2. The mercury introduced by inunction either—(*a*) Remains stored up in the organism; or else—(*b*) It is excreted by some other channel. Schuster proceeded to the examination of the fæces, and found that mercury was *always present in large quantities*. The result of the forty fæcal examinations was as follows:—Mercury was found—1. In relatively large quantities during the course of inunctions (earliest test ten days after beginning of treatment). 2. Mercury was found in the fæces for five and a half months after the end of the course. Examinations made every ten to fourteen days. Mercury was found in the fæces in all the cases in which it was found in the urine; *per contra*, it was often absent from the urine when present in the fæces. After prolonged courses of inunction, mercury was found in the fæces in such large amounts that it could have been determined quantitatively. This second series of experiments shows clearly:—1. The elimination of mercury by the fæces is regular, continuous. 2. The elimination of mercury after more extensive courses of inunction, say from thirty to forty-five days, is completed in six months. 3. Accordingly, persistence of mercury in the system does not occur.—*Medical Press.*

MISCELLANY.

STIMULANTS FOR COLD WEATHER.—The power of enabling the body to resist the influence of cold, which is the inherent property of all nutritious food, is known to be possessed by drinks, according to the measure of their fitness to produce and to maintain, without after-depression, a moderate stimulation of the nervous system. Some of them, no doubt, possess sufficient body to evolve a considerable measure of heat from chemical transformation of their component particles alone—notably, cocoa; but this factor is, in the case of most such liquids, an insignificant assistant to that other faculty of exciting nervous energy, with all its resultant influences on the circulation, to which we have referred. It would only be in keeping with the common law of all physical actions, that the more gradual and regular this excitation is, the greater should be its permanence, and the less sudden its decline; and it is so. It is this continuance of effect, taken with its moderation, which constitutes the distinguishing feature and the greater value of warm beverages in which the active principle of tea, under one or another name, is found, over those which own their exhilarating qualities to alcohol. Philosophical investigations have confirmed the teaching of practical experience that the stimulating glow imparted by the latter is but transient, and is quickly followed, if the draught be not repeated, by a stage of depression, which, in its turn, invites and enhances the chill which it is intended to prevent. Temperature is depressed; and so is function, muscular and nervous; and work, on the whole, is less efficiently performed than when no spirituous liquid is taken. In few circumstances, and only in its sparing use, is such an agent advisaable. The maintenance of the body-heat can only be included among these in the imaginary case in which other heat-producers are not obtainable, and where alcohol, in small measured and repeated doses, medicinally given, must, of necessity, take their place, or where a diffusible stimulant of swift action is required, in order to gain time for the administration of other remedies to one whose vital power is nearly exhausted.

It is now coming to be generally acknowledged that, wherever possible, preference should be given to tea, coffee, or cocoa, for this purpose. Though variations exist in the digestibility of these several commodities, they possess in nearly equal measure the property of maintaining warmth. There are not many persons who can not indulge with freedom in tea of medium strength, prepared by simple infusion. Medium strength is, unfortunately, a point of much divergence of opinion; but the difference does not arise so much from the quantity of the leaf which is used, as from the method of its preparation. The true mean will be best realised by those who are content to adopt the somewhat tedious, but effectual, method of infusion with boiling water merely, and to abandon the time-honored heresy of aftewards roasting the tea-pot before a fire. This practice, which is commonest in humble homes, is well-known to medical men as a cause of chronic dyspepsia; and is, therefore, calculated to bring the good name of tea itself, most unjustly, into disrepute. The addition of a pinch of bicarbonate of soda to the water of the infusion will improve the flavor, and increase, somewhat, the digestibility of tea. Coffee, prepared in the French manner, strong, and diluted with an equal quantity of boiling milk; and cocoa, boiled, or about the consistency of thin milk, will not derange any but the most delicate stomach. In certain idiosyncrasies, the bile-secretion is persistently deficient. This condition is not, on the whole, common, and occurs chiefly in persons of the nervous type. It may, of course, exist in others as a constitutional barrier to the use of coffee or cocoa, properly prepared; and is, after all, not a decisive contra-indication. Any person may, however, lose the benefit he ought to gain from the use of these drinks, from want of skill, or from carelessness in the decoction; and that this want exists is but too evident. Particularly in the case of cocoa, the tendency is to make a mixture so thick and strong, that even the certain advantages of prolonged and thorough boiling will not suffice to overcome that heaviness which results from the indigestion of so much actual nutriment in the form of the fatty matter which it contains. If cocoa be made thin, the same amount of nourishment, the same result in heat, will be gained; and a greater absolute bulk of liquid will be consumed with comfort, and without any consequent dyspepsia. Moreover, both it and coffee may be used for long periods without interruption, if only this propensity to overdo their strength be held in check; and the same is true in an even greater degree of tea. Is it necessary to add that the efficacy of all three, in promoting warmth, is much greater if they be taken hot than cold? Hot water, by itself, is no mean stimulant, and it certainly aids by its presence the beneficial action of the non-spirituous restoratives. We already see in many places signs of a gradual evolution of opinion, which promises to result in a practical admission, on the part of the principles we are advocating, as general as that which already prevails among authorities on hygiene in our own profession.—*British Medical Journal.*

THE SOURCES OF ANIMAL HEAT AND MUSCULAR POWER.—PROFESSOR BUNGE, of Dorpat, has lately published in the *Zeitchr. f. Physiol. Chemie* (Bd. 8, S. 48-59) the results of experiments carried out by him with a view of throwing light upon the question —What are the immediate sources of heat and of muscular activity within the organism?—recent views inclining to the belief that muscular power is principally due to the splitting up of food material previous to oxydising, and that body heat is mainly due to the oxydising process itself.

It occurred to him that if this view were the correct one, it should lead to the expectation that those animals that require absolutely no body heat of their own would have the least need for oxygen. Such animals are the entozoa of warm-blooded animals, which pass their lives in an unvarying and moderately high temperature, within the bodies of other animals. He selected the *ascaris mystax* of the cat, an entozoon that is distinguished by very active movements, as one suitable for experiment. He first ascertained that these ascarides could be kept alive and in an active condition in a solution of common salt (1 per cent,) and carbonate of soda (1 per cent.), maintained at a temperature of 38 C. (100·2 F.) for a period of from eight to ten days. The next step was to extract the oxygen from the water as completely as possible. This was done, with the result that the entozoa continued to live and move actively in the solution thus freed from oxygen for from three to five days, the animals not dying till the fifth or sixth day. He does not contend that the ascarides can live without oxygen; the experiments rather prove the contrary, as in solution not deprived of it they lived generally eight to ten days, and sometimes as long as fifteen; but he does claim that the need of oxygen by these entozoa is much less than that of other animals.

The experiments thus throw some light on the sources of muscular power in animals, as in these animals experimented on they cannot exclusively reside in the process of oxydation, for the movements were just as lively and continued, for days in a medium deprived as completely as possible of its oxygen. They must rather be sought in the splitting up process that takes place in the food.—*Medical Press* Feb., 6th 1884.

On School Hygiene.—This was the subject of an address before the American Health Association, at its last meeting, by Dr. Charles J. Lundy, of Detroit. He sums up tersely as follows: what is required to remedy existing defects:

1. Avoid the cramming process in education, and the nervous excitement due to the spirit of rivalry.
2. Reduce the number of subjects in the curriculum, and shorten the periods of study.
3. Ventilate the school-rooms in accordance with the most improved methods.
4. Regulate the temperature of the school-room—an atmosphere which is too warm debilitates the system.
5. Provide properly constructed and arranged seats and desks.
6. Instruct pupils to sit erect, and to hold the book or paper at least twelve inches from the eye.
7. Provide highly myopic pupils with proper spectacles, which will enable them to read at the natural distance of twelve inches.
8. Furnish pupils with well-printed books.
9. Furnish abundance of light, without producing glare. Let it come from the left side of the room if narrow, from both sides if the room is wide.
10. Provide for the physical education of school children, and teach them the importance of out-door exercise.—*Medical and Surgical Reporter*.

The Dread of Number Thirteen.—The hold that superstition has on human nature is well illustrated in the following: "*Galignani's Messenger* says the superstitious dread of the French for the number thirteen is well known; and a curious manifestation of that aversion has just been made before the Paris Municipal Council on a question put by M. de Lanessau to the Directory of Works. This letter said that applications were being continually received, from owners of houses bearing the No. 13, to have the number changed; the request being supported by the tenants. In the case of a street in which numbers follow and succeed thirteen, the demand is not admitted, as it would necessitate a modification of all the succeeding numbers; but, where the number 13 was the end of the series, the city, by a sort of toleration, allowed the last house to be numbered 11*bis* which was the case of the last house at the extremity of the Boulevard du Palais, which gave rise to the question.—*Medical and Surgical Reporter*.

In a recent editorial concerning Smartweed as an emenagogue, in the *Medical News*, it is stated that the drug (whose botanical name is polygonum hydropiperoides) is indicated in states of anæmia, functional torpor of the ovaries and uterus, due to systematic depression, and is contraindicated in the condition of plethora. Its power to stimulate the uterine circulation renders it useful in menorrhagia, and in metrorrhagia due to relaxation of the uterine vessels. Subinvolution of the passive kind, with a sluggish circulation, cold hands and feet, and general depression, are also benefitted by this remedy. The best form for administration is the fluid extract, in five to thirty minim doses, mixed with glycerine and wine, three or four times a day.—*Weekly Med. Review*.

Effect of Alum Gargles upon the Teeth.—M. Young (*Courier Med.*) prescribed a gargle containing a small proportion of alum for a woman suffering from chronic pharyngitis with catarrh of the middle ear. The patient, finding relief, continued its use for some three weeks. But perceiving that, at meals, her teeth began to crumble into little pieces, she consulted her dentist, who considered it due to the alum gargle, as when the enamel is removed from the teeth the alum breaks down the dentine. To prevent this it is best, immediately after using an alum gargle, to wash the mouth out with a solution of bicarbonate of soda or an alkaline water.—*Med. and Surg. Reporter.*

THE TREATMENT OF CRAMP. — Surgeon Robert Manners Mann writes in the *British Medical Journal:* "There is no remedy I have found to answer except the raising the head of the bed. I cause two bricks to be placed under each leg, or a block of wood of the same thickness as two bricks. Patients who have suffered at night, crying aloud with pain, have found the above plan an immediate, certain and permanent relief.

DR. FREDERICK LONG (*British Medical Journal*) writes that ten grains of citrate of potassium will dissolve fifteen grains of gallic acid in an ounce of water. This is an important discovery, as heretofore no feasible means of dissolving the acid has been known.

HOLMES says: "Diagnosis has reached a wonderful degree of accuracy; prognosis has become a terrible kind of second sight which is not always handled carefully enough; treatment gains a little with every decade."

An Indiana court recently granted a divorce upon the prayer of a woman, the wife of a physician doing a large and lucrative business, based upon his refusal to give up his night practice. The presiding judge praised the progressive liberality of the laws which permitted the release.

The Trustees of the College of Physicians and Surgeons have elected Dr. John C. Dalton, for so many years Professor of Physiology, President of the College, in place of Dr. Alonzo Clark, who has resigned. Dr. John G. Curtis now holds the chair of Physiology.

Dr. Anderson's Antiseptic Carbolized Capsules

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VAGINAL, UTERINE, AND RECTAL APPLICATIONS OF TOPICAL REMEDIES.

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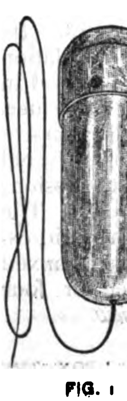

FIG. 1

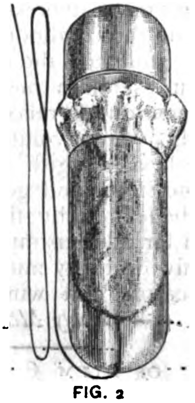

FIG. 2

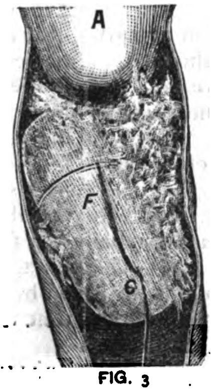

FIG. 3

No. 1. Capsule closed.

No. 2. Capsule removed showing the cotton ready for medicine.

No. 3. Capsule adjusted. A uterus, F capsule dissolving, and F cotton with the medicine coming in contact with the diseased parts, G string that surrounds the cotton, which nables the patient to remove the cotton at will. The cotton should be left in position at least 24 hours.

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Society Reports.

PROCEEDINGS OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Meeting of February 6th, 1884.

Clinical Aspects of Cerebral Syphilis.

Dr. Horatio C. Wood, Professor of Diseases of the Nervous System in the University of Pennsylvania, read the following paper on the above subject:

In the present article I propose to say very little in regard to the lesions of cerebral syphilis, only making such allusions as are necessary to the clinical study. So much practical importance attaches to the etiological relations of the disorder that I shall discuss these at some length.

We do not know why syphilis attacks one portion of the brain rather than another in any individual case; indeed, very rarely can we give any sufficient explanation why the brain is affected at all.

It is naturally to be expected that any cause of ordinary brain inflammation would, when present in a syphilitic person, tend to precipitate a specific cerebral disease. Thus, as thermic fever frequently provokes chronic meningitis, much plausibility attaches to the report of a case in the *Journ. de Méd. et Chir.*, Paris, 1879, p. 291, where the cerebral syphilis is ascribed to a sunstroke. Blows and other traumatisms would, in a similar manner, be supposed to figure largely as exciting causes of brain syphilis; but I have never met with a case having such relations, and reports of them are rare in literature. The only records I have found are the cases reported by Dr. Broadbent, *London Lancet*, 1876, ii., p. 741, and a small collection in Huebner's article on Nervous Syphilis, in Ziemmsen's *Encyclopedia*, xii., 301. I have seen two cases of presumably traumatic spinal syphilis; one in which a polio-myelitis (1) followed a fall on the ice; and one in which, after a fall from a cart, and marked spinal concussion, a local myelitis developed. (*Univers. Hosp. Dispen. Service Book*, x., 1875, p. 58.)

Various authorities attach much influence to over-study and other forms of cerebral strain in exciting brain syphilis. Engelstedt is stated to have reported cases having such etiological relations, and Fournier (*La Syphilis du Cerveau*) affirms that he has especially seen the disease in professional men and other persons habitually exercising their brains to excess. Neither in private or public practice have I met with any instance where over-brain work could be considered a distinct etiological factor, whilst the wards of the Philadelphia Hospital and the roll of the University Dispensary are full of cases occurring in persons who use not at all the modicum of brains nature has endowed them with. So far as my observation goes, cases of brain syphilis in which any exciting cause can be found are very rare.

The inherited diathesis is less prone to manifest itself in the nervous system than in other portions of the body, but it certainly is capable of causing every type of nervous disease that follows infection from impure coition.

As early as 1779 Dr. Joseph Glenck (*Doctrina de Morbus Venereis*, Vienna) reported a case of a girl, six years old, cured by a mercurial course of an epilepsy of three years' standing, and of other manifestations of hereditary syphilis. Græfe found gummatous tumors in the cerebrum of a child nearly two years old. (*Arch. f. Ophthalm.*, Band i., erst. Abth.) Prof. O. Huebner (*Virchow's Archiv*, Bd. lxxxiv., 269) details the occurrence of pachymeningitis hemorrhagica in a syphilitic infant under a year old. Dr. Hans Chiari (*Wien. Med. Wochenschrift*, xxxi., 1881, 17) reports a case in which very pronounced syphilitic degeneration of the brain-vessels was found in a child fourteen months old. Both Dr. Barlow (*London Patholog. Soc. Trans.*, 1877) and Dr. T. S. Dowse (*The Brain and its Diseases*, vol. i., p. 76) report cases of nerve syphilis in male infants of fifteen months.

It is a matter of great interest to know how late in life nervous disease from inherited taint may develop. We have, as yet, little light upon the equally interesting and cognate problem as to how far inherited syphilis may produce late in life nervous diseases whose type is not distinctly specific,

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1 In this case the man had symmetrical specific skin eruptions upon the arm and the symptoms were peculiarly symmetrical; great coldness of both forearms; excessive sweating of the palms; loss of power, so much more pronounced in the extensors than elsewhere that the patient had been treated for lead-poisoning and great wasting of the extensor muscles. Evidently a symmetrical syphilis chiefly confined to the anterior spinal cornua.

but it is probable that even after puberty specific nervous affections may appear for the first time in the unfortunate offspring of syphilitic parents. Mr. Nettleship reports (*Trans. London Path. Soc.*, xxxii., 13) the development of a cerebral gumma in a girl of ten years, and Mr. J. A. Omerod (*Ibid*, p. 14) of a tumor of the median nerve (probably gummatous) in a woman of twenty-three, both the subjects of inherited syphilis. Dr. Thos. S. Dowse (*loc. cit.*, p. 71) details a case of cerebral gumma at the age of ten years, and Dr. Sam'l Wilks (*Lectures on Dis. of Nerv. Syst.*, Phila., 1878, p. 333) one of epilepsy from inherited taint in a boy of fourteen. Dr. J. Hughlings Jackson reports (*Journal of Mental and Nervous Dis.*, 1875, p. 516), paraplegia with epilepsy in a boy of eight, hemiplegia in a girl of eighteen, and in the *Brit. Med. Journal*, May 18, 1872, hemiplegia in a woman of twenty-two; the nervous affection in each case being associated with or dependent upon inherited syphilis. Dr. E. Mendel reports (*Archiv f. Psychiatrie*, Band. i., 313) a case of a child who inherited syphilis, and developed in her fifteenth year a maniacal attack with hallucinations.

Some time since, I saw, in an orphan of fourteen, a chronic basal meningitis, and, in the absence of any history, gave the fatal prognosis of tubercular disease, but to my astonishment, under the long-continued use of iodide of potassium, complete recovery occurred. No signs of inherited syphilis were perceptible, but the specific nature of the inflammation is, in view of the result, scarcely doubtful; it is probable that in some of the reported cases of alleged recovery from tubercular meningitis, the affection has really been syphilitic.

The relation of inherited syphilis appears to be a close one. What role the diathesis has in the production of those cases which are dependent upon arrest of development we have no way at present of knowing, but that it very frequently causes chronic hydrocephalus seems to be well established. A number of cases have been reported; they have been collected by Dr. E. Mendel, *Archiv f. Psychiatrie*, Band i., 309. For a very important paper, see also Virchow's *Archiv*, Bd. xxxviii., p. 129.

Nervous diseases following acquired syphilitic infection certainly belong to the advanced stages of the disorder. Huebner reports (Ziemsen's Encyclopedia, xii., 298, New York edition) a case in which thirty years elapsed between the contraction of the chancre and the nervous explosion. I have seen a similar period of thirty years. Fournier reports intervals of twenty-five years, and thinks from the third to the tenth year is the period of maximum frequency of nerve accidents.

The fact that cerebral syphilis may occur many years after the cessation of all evidence of the diathesis is one of great practical importance, especially when taken in conjunction with the circumstance that the nervous system is more prone to be attacked when the secondaries have been very light than when the earlier manifestations have been severe. I have repeatedly seen nerve syphilis in persons whose secondaries have been so slight as to have been entirely overlooked or forgotten, and who honestly asserted that they never had had syphilis, although they acknowledged to gonorrhea or to repeated exposure, and confessed that their asserted exemption was due to good fortune rather than chastity.

To show that my experience is not peculiar, I may be allowed to make the following citations: Dr. Dowse (*Brain and its Diseases*, London, 1879, vol. i., p. 7) says: "Often have I had patients totally ignorant of having at any time acquired or experienced the signs or symptom of syphilis in its primary or secondary stages, yet the sequelæ have been made manifest in many ways; particularly in many of the obscure diseases of the nervous system." Dr. Buzzard (*Syphilitic Nervous Affect.*, London, 1874, p. 80) reports a case of nervous syphilis where the patient was unconscious of the previous existence of a chancre or of any secondaries. Prof. Rinecker also calls attention (*Archiv f. Psychiatrie*, vii., p. 241) to the frequency of nervous syphilis in persons who afford no distinct history of secondary symptoms.

This frequent absence of history of specific infection is of great practical importance, and has led me to attach comparatively little weight to the statements of patients. In private practice I usually avoid asking questions which might bring up from the past unpleasant memories, and arrive at a diagnosis by studying the symptoms present.

Although syphilis is most prone to attack the nervous system many years after infection, it would be a fatal mistake to suppose that brain disease may not rapidly follow the occurrence of a chancre. What is the minimum possible intermediate period we do not know, but it is certainly very brief, as is shown by the following cases of this so-called precocious cerebral syphilis. Dr. Alfrik Ljunggrén, of Stockholm, reports (*Archiv f. Dermatol. and Syphilis*, 1870, ii., p. 155) the case of H.R., who had a rapidly healed chancre in March, followed in May of the same year by a severe headache, mental confusion and giddiness. Early in July H.R. had an epileptic attack, but he was finally cured by active anti-syphilitic treatment. Although the history is not explicit, the nervous symptoms appear to have preceded the development of distinct secondaries other than rheumatic pains.

Davaine is said (Buzzard, *Syphilitic Nerv. Affections*, London, 1874) to have seen paralysis of the portio dura "a month after the first symptoms of constitutional syphilis." Dr. E. Leyden (*Zeitschrift f. Klin. Med.*, Bd. v., 165) found advanced specific degeneration of the cerebral arteries in a man who had contracted syphilis one year previously. Dr. R. W. Taylor details a case in which epilepsy occurred five months after the infection (*Journ. Nerv. and Mental Diseases*, 1876, p. 38). In the case of M. X., reported by Dr. Ad. Schwarz (*De l'Hemiplegia Syph. Precoce*, Inaug. Diss., Paris, 1880), headache came on the fortieth day after the appearance of the primary sore, and a hemiplegia upon the forty-sixth day. S.L. (*Ibid.*) had a paralytic stroke without prodromes, six months after the chancre. A.P.L. (*Ibid.*) had an apoplectic attack seven months after the chancre; A.S., one five months after her chancre. In a case which recently occurred in the practice of Dr. A. Sydney Roberts, of this city, the chancre appeared after a period of incubation of twenty-six days, and two months and eight days subsequent to this came the first fit; eight days after the first and second convulsion occurred, with a distinct aura, which preceded by some minutes the unconsciousness. The further details of this case are not germane to the present discussion, which only requires the additional statement that the attack developed into an unmistakable cerebral syphilis with temporary aphasia, and that convalescence was finally secured by active anti-syphilitic treatment. As the first paroxysm came on without warning, whilst the man was fishing in the sun, it is not unwarrantable to suppose that a precocious cerebral syphilis was in this case precipitated by exposure to the ordinary causes of sunstroke. This list of cases might be much extended, but it certainly is sufficient to show that cerebral syphilis occurs not very rarely within six months after infection, and may be present in two months.

An interesting observation in this connection is that of Dr. Ernst Gaucher (*Revue de Méd.*, 1882, ii., 678) of a spinal syphilis occurring six months after the appearance of a chancre.

Syphilographers are in accord in regard to the existence of two pathological varieties of brain syphilis, whilst some authorities believe in a third form. The most common seat of attack is the membranes; next to these are the brain-vessels; whilst, as already intimated, there is difference of opinion as to whether the disease ever directly affects the brain-tissue. Reasons will be given later on for believing that the brain-substance may suffer violence from syphilis, but I shall first discuss the clinical aspects of specific disease of the membranes.

DISEASE OF BRAIN MEMBRANES.

Specific affections of the brain membranes very often declare themselves with great suddenness. The records of the disease present case after case in which an apoplectic attack, a convulsive paroxysm, a violent mania, or a paralytic stroke, has been the first detected evidence of syphilitic cerebral disease. On the other hand, in many instances the symptoms come on slowly and successively. Proper treatment, instituted at an early stage, is usually successful, so that a careful study of these prodromes is most important. They are generally such as denote cerebral disturbance; and, although they should excite suspicion, are not diagnostic, except as occurring in connection with a specific history, or under suspicious circumstances.

Headache, slight failure of memory, unwonted slowness of speech, general lassitude, and especially lack of willingness to mental exertion, sleeplessness or excessive somnolence, attacks of momentary giddiness, vertiginous feelings when straining at stool, yelling, or in any way disturbing the cerebral circulation, alteration or disposition—any of these, and *à fortiori*, severa of them, occurring in a syphilitic subject, should be the immediate signal of alarm, and lead to the examination of the optic disks, for in some cases the eye-ground will be found altered even during the prodromic stage. Of course, if choked disk be found, the diagnosis becomes practically fixed, but the absence of choked disk is no proof that the patient is not suffering from cerebral syphilis. In regard to the individual prodromic symptoms, my own experience does not lend especial importance to any one of them; although, perhaps, headache is most common. There is one symptom which may occur during the prodromic stage of cerebral syphilis, but is more frequent at a later stage; a symptom which is not absolutely characteristic of the disease, but which, when it occurs in a person who is not hysterical, should give rise to the strongest suspicion. I refer to the occurrence of repeated, partial, passing palsies. A momentary weakness of one arm, a slight drawing of the face disappearing in a few hours, a temporary dragging of the toe, a partial aphasia which appears and disappears, a squint which to-morrow leaves no trace, may be due to a non-specific brain tumor, to miliary cerebral aneurisms, or to some other non-specific affection: but in the great majority of cases where such phenomena occur repeatedly, the patient is suffering from syphilis or hysteria.

The first type or variety of the fully-formed syphilitic meningeal disease to which attention is here directed, is that of an *acute meningitis*. I am much inclined to doubt whether an acute syphilitic meningitis can ever develop as a primary lesion; whether it must not always be preceded by a chronic meningitis or by the formation of a gummatous tumor; but it is very certain that acute meningitis may develop, when there have been no apparent symptoms, and may, therefore, seem to be abrupt in its onset. Some years ago I saw, in consultation, a man who, in the midst of apparent health, was attacked by violent meningeal convulsions, with distinct evidences of acute meningitis. He was apparently saved from death by very heroic venesection, but after his return to consciousness developed very rapidly a partial hemiplegia, showing that a latent gumma had probably preceded the acute attack. On the other hand, an acute attack is liable at any time to supervene upon a chronic syphilitic meningitis. At the University Hospital Dispensary I once diagnosed chronic cerebral syphilis in a patient who, the next day, was seized with violent delirium, with convulsions and typical evidences of acute meningitis, and died four or five days afterwards. At the autopsy an acute meningitis was found to have been engrafted on a chronic specific lesion of a similar character. In the case reported by Dr. Gamel (*Tumeurs Gommeuses du Cerveau*, Inaug. Diss., Montpellier, 1875), in which intense headache, fever, and delirium, came on abruptly in an old syphilitic subject and ended in general palsy and death, the symptoms were found to depend upon an acute meningitis, secondary to a large gumma.

In this connection may well be cited the observation of Dr. Molinier (*Revue Méd. de Toulouse*, xiv., 1880, 341), in which violent delirium, convulsions, and coma occurred suddenly. A very curious case is reported by Dr. D. A. Zambaco (*Des Affections Nerv. Syphilitiques*, Paris, 1862, p. 485), in which attacks simulating those of acute meningitis appear to have been produced in a man with a cerebral gummatous tumor by a malarial complication. In such a case the diagnosis of a malarial paroxysm could only be made by the presence of the cold stage, the transient nature of the attack, its going off with a sweat, its periodical recurrence, and the therapeutic effect on it of quinine.

In the cases of *chronic meningeal syphilis* which have come under my observation, most usually after a greater or less continuance of prodromes, such as have been mentioned, epileptic attacks have occurred with a hemiplegia, or a monoplegia, which is almost invariably incomplete and usually progressive; very frequently diplopia is manifested before the epilepsy, and on careful examination is found to be due to weakness of some of the ocular muscles. Not rarely oculo-motor palsy is an early and pronounced symptom, and a marked paralytic squint is very common. Along with the development of these symptoms there is almost always distinct failure of the general health, and progressive intellectual deterioration, as shown by loss of memory, failure of the power to fix the attention, mental bewilderment, and, perhaps, aphasia. If the case convalesce under treatment, the amelioration is gradual, the patient travelling slowly up the road he has come down. If the case end fatally, it is usually by a gradual sinking into complete nerve paralysis, or the patient is carried off by an acute inflammatory exacerbation, or, as I saw in one case, amelioration may be rapidly occurring, and a very violent epileptic fit produce a sudden asphyxia. In this form of cerebral syphilis, death from brain-softening around the tumor is not infrequent; but a fatal apoplectic hemorrhage is rare.

The clinical varieties of cerebral meningeal syphilis are so polymorphic and kaleidoscopic that it is almost impossible to reduce them to order for descriptive purposes. Prof. Fournier separates them into the cephalic, congestive, epileptic, aphasic, mental and paralytic, but scarcely facilitates description by so doing. Heubner makes the following types:

"1. Psychical disturbances, with epilepsy, incomplete paralysis (seldom of the cranial nerves), and a final comatose condition usually of short duration.

"2. Genuine apoplectic attacks with succeeding hemiplegia, in connection with peculiar somnolent conditions, occurring in often-repeated episodes; frequently phenomena of unilateral irritation, and generally at the same time paralyses of the cerebral nerves.

"3. Course of the cerebral disease similar to paralytica dementia."

In regard to these types, the latter seems to me clear and well defined, but contains those cases which I shall discuss under the head of cortical disease.

Meningeal syphilis as seen in this country does not conform rigidly with the other asserted types, although there is this much of agreement that when the epilepsy is pronounced, the basal cranial nerves are not usually paralyzed, the reason of this being that epilepsy is especially produced when the gummatous change is in the ventricles or on the upper cortex. In basal affections, the epileptoid spells, if they occur at all, are usually of the form of petit mal; but this rule is general, not absolute. The apoplectic somnolent form of cerebral syphilis, for some reason, is rare in this city; and it seems necessary to add to those of Prof. Heubner's, a fourth type to which a large proportion of our cases conform. This type I would characterize as follows:

4. Psychical disturbance without complete epileptic convulsions, associated with palsy of the basal nerves and often with partial hemiplegia.

The most satisfactory way of approaching this subject, is, however, to study the important symptoms in severalty rather than to attempt to group them so as to make typical, recognizable varieties of the disease, and this method I shall here adopt.

Headache is the most constant and usually the earliest symptom of meningeal syphilis; but it may be absent, especially when the lesion is located in the reflexions of the meninges, which dip into the ventricles, or, when the basal gumma is small and not surrounded with much inflammation. The length of time it may continue without the development of other distinct symptoms is remarkable. In one case (Book Y, p. 88, 1879), at the University Dispenary, the patient affirmed that he had had it for four years before other causes of complaint appeared. It sometimes disappears when other manifestations develop. It varies almost indefinitely in its type, but is, except in very rare cases at least so far paroxysmal as to be subject to pronounced exacerbations. In most instances it is entirely paroxysmal; and a curious circumstance is, that very often these paroxysms may occur only at long intervals; such distant paroxysms are usually very severe, and are often accompanied by dizziness, sick stomach, partial unconsciousness, or even by more marked congestive symptoms. The pain may seem to fill the whole cranium, may be located in a cerebral region, or fixed in a very limited spot. Heubner asserts that when this headache can be localized, it is generally made distinctly worse by pressure at certain points, but my own experience is hardly in accord with this. Any such soreness plainly cannot directly depend upon the cerebral lesion, but must be a reflex phenomenon, or due to a neuritis. According to my own experience, localized soreness indicates an affection of the bone or of its periosteum. In many cases, especially when the headache is persistent, there are distinct nocturnal exacerbations.

It will be seen that there is nothing absolutely characteristic in the headache of cerebral syphilis; but excessive persistency, apparent causelessness, and a tendency to nocturnal exacerbation, should in any cephalalgia excite suspicion of a specific origin; a suspicion which is always to be increased by the occurrence of slight spells of giddiness, or by delirious mental wandering accompanying the paroxysms of pain. When an acute inflammatory attack supervenes upon a specific meningeal disease, it is usually ushered in by a headache of intolerable severity.

When the headache in any case is habitually very constant and severe, the disease is probably in the dura mater or periosteum, and this probability is much increased if the pain be local and augmented by firm, hard pressure upon the skull over the seat of the pain.

Disorders of Sleep.—There are two antagonistic disorders of sleep, either of which may occur in cerebral syphilis, but which have only been present in a small proportion of the cases that I have seen. Insomnia is more apt to be troublesome in the later stages, and is only of signficance when combined with other more characteristic symptoms. A peculiar somnolence is of much more determinate import. This may occur in non-specific leptomeningitis, and in states of altered brain nutrition from senile or other degenerations of the walls of the cerebral vessels, and is therefore not pathognomonic of cerebral syphilis, yet of all the single phenomena of the latter disease it is the most characteristic. Its absence is of no import in the theory of an individual case.

As I have seen it, it occurs in two forms: In the one variety the patient sits all day long or lies in bed in a state of semi-stupor, indifferent to everything but capable of being aroused, answering questions slowly, imperfectly, and without complaint but in an instant dropping off again into his quietude. In the other variety the sufferer may still be able to work, but often falls asleep while at his tasks, and especially towards evening has an irresistible desire to slumber, which leads him to pass, it may be, half of his time in sleep. This state of partial sleep may precede that of the more continuous stupor, or may pass off when an attack of hemiplegia seems to divert the symptoms. The mental phenomena in the more severe cases of somnolency are peculiar. The patient can be aroused, indeed in many instances he exists in a state of torpor rather than of sleep; when stirred up he thinks with extreme slowness, and may appear to have a form of aphasia; yet, at intervals he may be endowed with a peculiar automatic activity, especially at night. Getting out of bed; wandering aimlessly and seemingly without knowledge of where he is and unable to find his own bed; passing his excretions in a corner of the room, or in other similar place, not because he is unable to control his bladder and bowels, but because he believes that he is in a proper place for such act—he seems a restless automaton rather than a man.

Apathy and indifference are the characteristics of this state, and yet the patient will sometimes show excessive irritability when aroused, and will at other periods complain bitterly of pain in his head, or will groan as though suffering severely in the midst of his stupor, at a time too when he is not able to recognize the seat of the pain. I have seen a man with a vacant apathetic face, almost complete aphasia, persistent heaviness and stupor, arouse himself when the stir in the ward told him that the attending physician was present, and come forward in a dazed, highly pathetic manner, by signs and broken utterance begging for something to relieve his head. Heubner speaks of cases in which the irritability was such that the patient fought vigorously when aroused; this I have not seen.

This somnolent condition may last many weeks, Dr. T. Buzzard (*Clinical Lectures on Dis. Nerv. Syst.* London, 1882) details the case of a man who, after a specific hemiplegia, lay silent and somnolent for a month, and yet finally recovered so completely as to win a rowing match on the Thames.

In its excessive development, syphilitic stupor puts on the symptoms of advanced brain softening, to which it is indeed often due. Of the two cases with fatal results of which I have notes; one at the autopsy was found to have symmetrical purulent breaking down of the anterior cerebral lobes; the other, softening of the right frontal and temporal lobes due to the pressure of a gummatous tumor, and ending in a fatal apoplexy.

This close connection with cerebral softening explains a clinical fact that apoplectic hemorrhage is very apt to end the life in these cases of somnolent syphilis. Dr. Buzzard's case given above, and others which might be cited, prove, however, that a prolonged deep stupor in persons suffering from cerebral syphilis does not prove the existence of extensive brain softening, and is not incompatible with subsequent complete recovery. As an element of prognosis, it is of serious but not of fatal import.

Paralysis.—When it is remembered that a syphilitic exudation may appear at almost any position in the brain, that spots of encephalic softening are a not rare result of the infection, that syphilitic disease is a common cause of cerebral hemorrhage—it is plain that a specific palsy may be of any conceivable variety, and affect, either the sensory, motor, or intellectual sphere. The mode of onset is as various as the character of the palsy. The attack may be instantaneous, sudden, or gradual. The gradual development of the syphilitic gumma would lead us, *à priori*, to expect an equally gradual development of the palsy; but experience shows that in a large proportion of the cases the palsy develops suddenly, with or without the occurrence of an apoplectic or epileptic fit. Under these circumstances it will be usually noted that the resulting palsy is incomplete; in rare instances it may be at its worst when the patient awakes from the apoplectic seizure, but mostly it progressively increases for a few hours, and then becomes stationary. These sudden partial palsies probably result from an intense congestion around the seat of disease, or from stoppage of the circulation in the same locality; but whatever their mechanism may be, it is important to distinguish them from palsies which are due to hemorrhage. I believe this can usually be done by noting the degree of paralysis.

A suddenly developed, *complete* hemiplegia, or other paralysis, may be considered as in all probability either hemorrhagic or produced by a thrombus so large that the results will be disorganization of the brain substance, and a future no more hopeful than that of a clot. On the other hand, an *incomplete* palsy may be rationally believed to be due to pressure or other removable cause, and this belief is much strengthened by a gradual development. The bearing of these facts upon prognosis it is scarcely necessary to point out.

Although the gummæ may develop at almost any point, they especially affect the base of the brain, and are prone to involve the nerves which issue from it. Morbid exudations, not tubercular nor syphilitic, are very rare in this region. Hence a rapidly but not abruptly appearing strabismus, ptosis, dilated pupil, or any paralytic eye symptom in the adult, is usually of syphilitic nature. Syphilitic facial palsy is not so frequent, whilst paralysis of the nerve from rheumatic and other inflammation within its bony canal are very common. Paralysis of the facial may therefore be specific, but it is of no diagnostic value. Since syphilitic palsies about the head, are in most instances due to pressure upon the nerve trunks, the electrical reactions of degeneration are present in the affected muscles.

There is one peculiarity about specific palsies which has already been alluded to as frequently present, namely, a temporary, varying character and seat. Thus an arm may be weak today, strong to-morrow, and the next day feeble again, or the recovered arm may retain its power, and a leg fail in its stead. These transient palsies are much more apt to involve large than small brain territories. The explanation of their largeness, fugitiveness, and incompleteness is that they are not directly due to clots or other structural changes, but to congestions of the brain tissues in the neighborhood of gummatous exudations.

It is easily seen why a squint will remain when the accompanying monoplegia disappears.

Motor palsies are more frequent than sensory affections in syphilis, but hemianæsthesia, localized anæsthetic tracts, indeed any form of sensory paralysis may occur. Numbness, formication, all varieties of parasthesia are frequently felt in the face, body, or extremities. Violent peripheral neuralgic pains are rare, and generally when present denote neuritis. Prof. Huguenin, however, reports (*Schweiz. Corr. Blat.*, 1875) a case in which a severe trigeminal anæsthesia dolorosa had existed during life, as the only cerebral symptom, and death occurring from lung disease, a small gumma was found on the sella turcica pressing upon the Gasserian ganglion.

The special senses are liable to suffer from the invasion of their territories by cerebral syphilis, and the resulting palsies follow courses and have clinical histories parallel to those of the motor sphere. The onset may be sudden or gradual, the result temporary or permanent. Dr. Chas. Mauriac (*loc. sit.*, p. 31) reports a case in which the patient was frequently seized with sudden attacks of severe frontal pain and complete blindness, lasting from a quarter to half an hour; at other times the same patient had spells of aphasia, lasting only for one or two minutes. In a case still under my care, with unmistakable signs of cerebral syphilis, the man was suddenly and unaccountably seized with complete deafness, which after some days disappeared in the course of a few hours. Like other syphilic palsies, therefore, paralysis of the special senses may come on gradually or occur paroxysmally.

Among the palsies of cerebral syphilis must be ranked aphasia. An examination of recorded cases shows that it is subject to vagaries and laws similar to other specific cerebral palsies. It is usually a symptom of advanced disease, but may certainly develop as one of the first evidences of cerebral syphilis.

Coming on after an apopléctic or epileptic fit, it may be complete or incomplete; owing to the smallness of the center involved, and the ease with which its function is held in abeyance, a total loss of word thought is not so decisive as to the existence of cerebral hemorrhage as is a total motor palsy. Like hemiplegia or monoplegia, specific aphasia is sometimes transitory and paroxysmal. Dr. Buzzard (*loc. sit.*, p. 81) records several such cases. Dr. Chas. Mauriac (*Aphasie et Hemiplégie droite Syphilit.*, Paris, 1877) details a very curious case, in which a patient, after long suffering from headache, was seized by sudden loss of power in the right hand and fingers, lasting only about ten minutes only, but recurring many times a day. After this had continued some time, the paroxysms became more completely paralytic, and were accompanied by a loss of power of finding words, the height of the palsy and aphasia being simultaneously reached. For a whole month these attacks continued five or six times a day, without other symptoms except headache, and then the patient became persistently paralytic and aphasic, but finally recovered.

To describe the different forms of specific aphasia and their mechanicism of production would be to enter upon a discussion of aphasia itself, a discussion out of place here. Suffice to say that every conceivable form of the disorder may be induced by syphilis.

Owing to the centers of speech being situated in the cortical portion of the brain, aphasia, in cerebral syphilis, is very frequently associated with epilepsy. Of course, right-sided palsy and aphasia are united in syphilis as in other disorders. If, however the statistics given by M. Tanowsky (*L'Aphasie Syphilitique*) be reliable, syphilitic aphasia is associated with left-sided hemiplegia in a most extraordinarily large proportion. Thus in 53 cases collected by Mr. Tanowsky 18 times there was right-sided hemiplegia, and 14 times left-sided hemiplegia, the other cases being not at all hemiplegic. Judging from the autopsy on a case in Mauriac's brochure, this concurrence of left-sided paralysis and aphasia depends partly upon the great frequency of multiple brain lesions in syphilis, and partly upon the habitual involvement of large territories of the gray matter secondary to diseased membrane. An important practical deduction is that the conjoint existence of left hemiplegia and aphasia is almost diagnostic of cerebral syphilis.

Probably among the palsies may be considered the disturbance of the renal functions which are rarely met with in cerebral syphilis, and which are probably usually dependent upon the specific exudation pressing upon the vaso-motor centres in the medulla. Fournier speaks of having notes of six cases in which polyuria, with its accompaniment, polydipsia, was present, and details a case in which the specific growth was found on the floor of the fourth ventricle. Cases have been reported in which true saccharine diabetes has been present (Consult. Servantie, *Du rapports du Diabète et de la Syphilis*, Paris Thèse, 1876) and I can add to these an observation of my own. The symptoms, which occurred in a man of middle age, with a distinct specific history, were headache, nearly complete hemiplegia, and mental failure, associated with the passage of a comparatively small quantities of a urine so highly saccharine as to be really a syrup. Under the influence of the iodide of potassium the sugar in a few weeks disappeared from the urine.

Epilepsy — Epileptic attacks are a common symptom of meningeal syphilis, and are of great diagnostic value. The occurrence in an adult of an epileptic attack, or of an apoplectic fit, or of a hemiplegia after a history of intense and protracted headache, should always excite grave suspicion.

Before I read Prof. Fournier's work on Nervous Syphilis, I taught that an epilepsy occurring after thirty years of age was very rarely, if ever, essentially epilepsy, and unless alcoholism, uræmic poison or other adequate cause could be found, was in nine cases out of teh specific, and I therefore quote with satisfaction Prof. Fournier's words: L'épilepsie vraie, ne fait jamais son premier debut a l'age adulte, a l'age mur. Si un homme adulte, au dessus de 3, 35 à 40 ans, vient a etre pris pour la première fois d'une crise épileptique, et cela dans la cours d'une bonne santé apparante, il y a, je vous le répète, hui, ou nenf chances sur dix pour que cette épilepsie soit d'origine syphilitique.

Syphilitic epilepsy may occur either in the form of the petit mal or of the haut mal, and in either case may take on the exact characters and sequence of phenemena which belong to the so-called idiopathic or essential epilepsy. The momentary loss of consciousness of petit mal will usually, however, be found to be associated with attacks in which, although voluntary power is suspended, memory recalls what has happened during the paroxysm; attacks, therefore, which simulate those of hysteria, and may lead to an error of diagnosis.

Even in the fully developed type of the convulsions, the aura is only rarely present. Its absence is not, however, of diagnostic value, because it is frequently not present in true essential epilepsy, and it may be pronounced in specific disease. It is said that when in an individual case the aura has once appeared, the same type or form of approach of the convulsion is thereafter rigidly adhered to. The aura is sometimes bizarre; a severe pain in the foot, a localized cramp, a peculiar sensation, indescribable and unreal in its feeling, may be the first warning of the attack.

In many, perhaps most, cases of specific convulsions, instead of a paroxysm of essential epilepsy being closely simulated, the movements are in the onset or, more rarely, throughout the paroxysm, unilateral; indeed, they may be confined to one extremity. This restriction of movement has been held to be almost characteristic of syphilitic epilepsy, but it is not so. Whatever diagnostic significance such restriction of the convulsion has, is simply to indicate that the fit is due to a cortical organic lesion of some kind. Tumors, scleroses, and other organic lesions of the brain cortex are as prone to cause unilateral or monoplegic epilepsy when they are not specific as when they are due to syphilis.

Sometimes an epilepsy, dependent upon a specific lesion implicating the brain cortex, may be replaced by a spasm which is more or less local and is not attended with any loss of consciousness. Thus in a case now convalescent in the University Hospital, a man aged about thirty-five offers a history of repeated epileptic convulsions, but at the time of his entrance into the hospital, instead of epileptic attacks, there was a painless tic. The spasms, which were clonic, and occurred many times a day, —sometimes every five minutes—were very violent, and mostly confined to the left facial nerve distribution. The trigeminus was never affected, but in the severer paroxysms the left hypoglossal and spinal accessory nerves were profoundly implicated in all their branches. Once, fatal asphyxia from recurrent laryngeal spasm of the glottis was apparently averted only by the free inhalation of the nitrite of amyl. The sole other symptom was headache, but the specific history was clear, and the effect of antisyphilitic remedies was rapid and pronounced.

Psyschial Symptoms.—As already stated, apathy, somnolence, loss of memory and general mental failure are the most frequent and characteristic mental symptoms of meningeal syphilis, but, as will be shown in the next chapter, syphilis is able to produce almost every form of insanity, and, therefore, mania, melancholia, erotic mania, delirium of grandeur, etc., etc., may develop along with the ordinary manifestation of cerebral syphilis, or may come on during an attack which has hitherto produced only the usual symptoms. Without attempting any exhaustive citation of cases, the following will be briefly alluded to:

Dr. A. Erlenmayer reports (*Die leuitischen Psyschosen*) a case in which an attack of violent headache and vomiting was followed by paralysis of the right arm and paresis of the left leg, with some mental depression; a little later the patient suddenly became very cheerful, and shortly afterwards manifested very distinctly delirium of grandeur, with failure of memory.

Dr. Batty Tuke reports (*Jour. Ment. Sci.*, Jan., 1874, p. 560) a case in which with aphasia, muscular wasting, strabismus, and various palsies, there were delusions and hallucinations.

In the same journal, April, 1869, Dr. S. D. Williams reports a case in which there were two paroxysmal violent attacks of frontal headache. The woman was very dirty in her habits, only ate when fed, and existed in a state of hypochondriacal melancholy.

M. Leiderdorf details a case with headache, partial hemiplegia, great psychical disturbance, irritability, change of character, marked delirium of grandeur, epileptic attacks, and finally dementia, eventually cured with iodide of potassium (*Medisin. Jahrbücher*, xx. 1864, p. 114.) Several cases illustrating different forms of insanity are reported by Dr. N. Manssurow. (*Die Tertiäre Syphilis*, Wein., 1877.)

That attacks of syphilitic insanity, like palsies of syphilis, may at any time be temporary and fugitive, is shown by a curious case reported by Dr. H. Hayes Newington (*Jour. Ment. Sci. London*, xix. 555.) in which along with headache, failure of memory, and ptosis in a syphilitic person, there was a brief paroxysm of noisy insanity.

DISEASES OF BRAIN SUBSTANCE.—The psychical symptoms which are produced by syphilis are often very pronounced in cases in which the paralysis, headache, epilepsy, and other palpable manifestations show the presence of gross brain lesions. In the study of syphilitic disease of the brain membranes, sufficient has been said in regard to these psychical disturbances, but the problem which now offers itself for solution, is, as to the existance or non-existance of syphilitic insanity, *i. e.*, of an insanity produced by specific contagion without the obvious presence of gummatous disease of the brain membranes. Very few alienists recognize the existence of a distinct affection entitled to be called syphilitic insanity, and there are some who deny that insanity is ever directly caused by syphilis. It is certain that insanity often occurs in the syphilitic, but syphilis is abundantly joined with alcoholism, poverty, mental distress, physical ruin, and various depressing emotions and conditions which are well-known to be active, exciting causes of mental disorder. It may well be that syphilis is in such way an indirect cause of insanity, which, under the circumstances, could not be properly styled syphilitic.

If there be disease of the brain cortex produced directly by syphilis, of course such disease must give rise to mental disorders, and, if the lesion be situated in such a way as to effect the psychic and to avoid the motor regions of the brain, it will produce mental disorder without paralysis, *i. e*,, a true insanity; again, if such brain disease be wide spread, involving the whole cortex, it will cause a progressive mental disorder accompanied by gradual loss of power in all parts of the body and ending in dementia with general paralysis; or, in other words, it will produce an affection, more or less, closely resembling the so-called General Paralysis of the Insane, or Dementia Paralytica.

As a man having syphilis, may have a disease which is not directly due to the syphilis, when a syphilitic person has any disorder, there is only one positive way of determining how far said disorder is specific, namely, by studying its amenability to anti-syphilitic treatment. In approaching the question: whether lesion found after death, is specific or not, of course such a therapeutic test as that just given, is inapplicable. We can only study as to the coexistence of the lesion in consideration with other lesions known to be specific. Such co-existence, of course, does not absolutely prove the specific nature of a nutritive change, but renders such nature exceedingly probable.

What has just been said, foreshadows the method in which the subject in hand, is to be here examined, and the present chapter naturally divides itself into two sections; the first considering the co-existence of anatomical alterations occurring in the cerebral substance with syphilitic affections of the brain membrane or blood vessels; the second being a clinical study of syphilitic insanity.

In looking over literature, I have found the following cases in which a cerebral affection coincided with a gummatous disease of the brain: Gross and Lancereaux (*Affect. Nerv. Syphilis*, 1881, p. 245) report a case having a clear syphilitic history, in which the dura mater was adherent to the skull. The pia-mater was not adherent. Beneath, upon the vault of the brain, was a gelatinous exudation. The uper cerebral substance was indurated, and pronounced by M. Robin, after microscopic examination, to be sclerosed. At the base of the brain were very atheromatous arteries and spots of marked softening.

Dr. Jos. J. Brown (*Journ. Ment. Sci.*, July, 1875, p. 271) reports a case in which the symptoms were melancholia, excessive irritability, violent outbursts of temper, very positive delusions, disordered gait, ending in dementia. At the autopsy, which was very exhaustive, extensive syphilitic disease of the vessels of the brain and spinal cord was found. The pia mater was not adherent to the brain. The convolutions, particularly of the frontal and parietal lobes, were atrophied with very wide sulci, filled with bloody serum. The neuroglia of these convolutions was much increased and "appeared to be more molecular than normal, the cells were degenerated and in many places had disappeared, their places being only occupied by some granules." These changes were most marked in the frontal convolutions.

H. Schule reports (*Allgem. Zeitschrift f. Psychiatrie* xxviii., 1871-2) a very carefully and meritoriously studied case. The symptoms, during life, exactly simulated those of dementia paralytica. The affection commenced with an entire change in the disposition of the patient; from being taciturn, quiet, and very parsimonious, he became very excited, restless, and desiring continuously to buy in the shops. Then failure of memory, marked sense of well-being, carelessness and indifference for the future, developed consentaneously with failure of power of walking, trembling of the hands, inequality of the pupils, and hesitating speech. There was next, a period of melancholy, which was in time followed by continuous failure of mental and motor powers, and very pronounced delirium of grandeur, ending in complete dementia. Death finally occured from universal palsy, with progressive increase of the motor symptoms. At the autopsy, characteristic syphilitic lesions were found in the skull, dura mater, larynx, liver, intestines, and testicles. The brain presented the macroscopic and microscopic characters of sclerosis and atrophy; the neuroglia was much increased, full of numerous nuclei, the ganglion cells destroyed. The vessels were very much diseased, some reduced to cords; their walls were greatly thickened, and full of long spindle-shaped cells, sometimes also containing fatty granules.

Dr. C. E. Stedman, and Robt. T. Edes, report (*Amer. Journ. Med. Sci.*, lxix., 433) a case, in which the symptoms were: failure of health, ptosis, trigeminal palsy with pain (anæsthesia dolorosa,) finally mental failure, with gradual loss of power, of motion, and sensation. At the autopsy, the following conditions were noted: apex of the temporal lobe adhered to dura mater and softened; exuded lymph in neighborhood of optic chiasm; sclerosis of right gasserian ganglion, as shown in a marked increase of the neuroglia; degeneration of the basal arteries of the brain.

These cases are sufficient to demonstrate that sclerosis of the brain substance not only may co-exist with a brain lesion, which is certainly specific in its character, but also may present the appearance of having developed *pari passu* with that lesion, and from the same cause.

It has already been stated in this memoir, that cerbral meningeal syphilis may co-exist with various forms of insanity, and have been cited in proof thereof. It is, of course, very probable that in some of such cases, there has been that double lesion of membrane and gray brain matter which has just been demonstrated by report of autopsies; further, if we find that there is a syphilitic insanity, which exists without evidence of meningeal syphilis, and is capable of being cured by anti-specific treatment, such insanity must be considered as representing the disease of the gray matter of the brain. Medical literature is so gigantic that it is impossible to exhaust it, but the following list of cases is amply sufficient to prove the point at issue, namely, that there is a syphilitic insanity, which exists without obvious meningeal disease and is capable of being cured by anti-syphilitic treatment.

A study of the brief analyses of symptoms just given, shows that syphilitic disease of the brain may cause any form of mania, but that the symptoms, however various they may be at first, end almost always in dementia, unless relieved.

Of all the forms of insanity general paralysis is most closely and frequently simulated by specific brain disease. The exact relation of the diathesis to true, incurable, general paralysis, it is very difficult to determine. It seems well established that among persons suffering from this disorder the proportion of syphilitics is not only much larger than normal, but also much larger than in other forms of insanity. Thus, Dr. E. Mendel (*Progres. Paral.-der Irren*, Berlin, 1880), found that in 146 cases of general paralysis 109, or 75 per cent., had a distinct history of syphilis; while in 101 cases of various other forms of primary insanity, only 18 per cent. had specific antecedents.

Various opinions might be cited as to the nature of this relation between the two disorders, but for want of space the curious reader is referred to the work just quoted and to the thesis of C. Chauvet (*Influence de la Syph. sur les Malad. du Syst. nervuex*, Paris, 1880), for an epitome of the most important recorded opinions.

Those who suffer from syphilis are ex-

No	*Reporter and Journal.*	*Symptoms.*	*Results. Remarks.*
1	Louis Streisand. Die Lues als Ursache der Dementia. Inaug Diss, Berlin, 1878.	Epilepsy, delirium of exaltation, alteration of speech, headache, failure of memory.	Rapid cure with mercury.
2	Ibid.	Delusions, delirium, general mania, great muscular weakness.	Cure with mercury.
3	Dr. Muller of Leutkirch. Journ. of Mental Dis., 1873-4, 561.	Symptoms resembling general paralysis, and diagnosis of such made until a sternal node was discovered.	Cure by iodide of potassium.
4	Er. Esmarch and W. Jersen Allgem. Zeitschrift f. Psychiatrie.	Sleeplessness, great excitement, restlessness, great activity, incoherence and violence.	Cure by mercury.
5	M. Leidesdorf. Medizin. Jahrbücher, xx., 1864, 1.	Complete mania, played with his excrement, and entirely irrational.	Complete cure by iodide of potassium.
6	Dr. Beauregard. Gaz. Hebdom. de Sci, Med. de Bordeaux, 1880, p. 64.	Symptoms resembling those of general paralysis.	Cure by iodide of potassium.
7	M. Rendu. Ibid.	Loss of memory, headache, irregularity of pupils, ambitious delirium, periods of excitement, others of depression, embarrassment of speech, access of furious delirium ending in stupor.	Mercurial treatment, cure.
8	Ibid.	Hypochondria, irregularity of pupils, headache, failure of memory, melancholy, stupor.	Mercurial treatment, cure.
9	Dr. Albrecht Erlenmeyer. Die luëteschen Psychoset, Neuwied, 1877.	Melancholia, with hypochondriasis, sleeplessness, fear of men, and belief they were all leagued against him.	Iodide of potassium, cure.
10	Ibid.	Religious melancholia, with two attempts at suicide, ending in mania.	Iodide of potassium cure.
11	Ibid.	At times very violent, yelling, shrieking, destroying everything she could get hands on, at times erotomania, no distinct history of infection, but her habits known to be bad, and had bone ozœna and other physical syphilitic signs.	Iodide of potassium cure.
12	Ibid.	Epileptic attack, followed by a long soporose condition, ending in mental confusion, he not knowing his nearest friends, etc., almost dementia.	Cure by mercurial inunction.
13	Ibid.	Great fear of gen d'armes, etc., mania, with hallucinations, loud crying, yelling, etc., then convulsion, followed by great difficulty of speech.	Cured by mercurial inunctions with iodide internally, subsequently return of convulsions, followed by hemiplegia and death.

No	*Reporter and Journal.*	*Symptoms.*	*Results. Remarks.*
14	Ibid	Great unnatural vivacity and loquacity, wanted to buy everything, bragged of enormous gains at play, etc., some trouble of speech.	Iodide or potassium cure. Attended to business and seems as well as before. Relapsed. (See symptoms.)
15	Ibid Relapse of case 14.	Fifteen months after discharge from asylum relapse, symptoms developing very rapidly, delirium of grandeur of the most aggravated type, with marked progressive dementia, failure of power of speech, and finally of locomotion.	Failure of various antispecific treatment.
16	Dr. A. Erlenmeyer Die luetischen, etc.	Failure of mental powers, inequality of pupils, trembling of lip when speaking, uncertainty of gait, almost entire loss of memory, once temporary ptosis and strabismus.	Iodide of potassium in ascending doses failed. Recovery under mercurial inunctions.
17	Ibid	Failure of mental powers, pronounced delirium of grandeur, hallucinations of hearing, failure of memory, strabismus and ptosis coming on late.	Iodide of potassium, corrosive sublimate injections. Cure.
18	Ibid	Failure of memory and mental powers, slight ideas of grandeur, disturbance of sensibility and motility, aphasia coming on late.	Cure with use of iodide and mercurial inunctions.
19	Ibid	Melancholy, great excitability ideas of grandeur, after a long time sudden ptosis and strabismus.	Iodide of potassium failed; mercurial course improved; joint use cured patient.
	Ibid	Various cerebral nerve palsies, great relief by use of mercurial inunctions, then development of great excitement, delirium of grandeur, failure of memory and mental powers, and finally death from apoplexy, no autopsy.	
20	Dr. J. B. Chapin Amer. Journ. Insanity, vol. xv. p. 249.	Melancholia, with attempted suicide, epilepsy, headache, somnolent spells.	Iodide of potassium, cure.
21	Ibid	Acute mania. noisy, very destructive; syphilitic disease of tibia.	Iodide of potassium, cure.
22	Dr. Snell	Maniacal excitement.	Cured by specific treatment.
23	Wm. Smyth Brit. Med. Journ., July, 1868, p. 30.	Apathetic melancholy, indelicate, speaking only in monosyllables, and much of the time not at all, sullen and menacing.	Rapidly cured by conjoint use of iodide and mercurial. The symptoms first developed three months after chancre.

posed in much greater proportion than are other persons to the ill-effects of intemperance, sexual excesses, poverty, mental agony, and other well-established causes of general paralysis. It may be that in this is sufficient explanation of the frequency of general paralysis in syphilitics, but I incline to the belief that syphilis has some direct effect in producing the disease. However this may be, I think we must recognize as established the opinion of Voisin (*Paralysie générale des Aliénés*, 1879)), that there is a syphilitic peri encephalitis which presents symptoms closely resembling those of general paralysis. Such cases are examples of the Pseudo-paralysie générale of Fournier (*La Syphilis du Cerveau*, Paris, 1879).

The question as to the diagnosis of these cases from the true incurable paresis is of course very important, and has been considered at great length by Voisin (*loc. cit.*), Fournier (*loc. cit.*), and Mickle. (*Brit. and For. Medico-Chirurg. Review*, 1877.)

The points which have been relied upon as diagnostic of syphilitic pseudo-general paralysis are:

The occurrence of headache, worse at night, and present among the prodromes.

An early persistent insomnia, or somnolence; early epileptiform attacks.

The exaltation being less marked, less persistent, and perhaps less associated with general maniacal restlessness and excitement.

The articulation being paralytic rather than paretic.

The absence of tremulousness, especially of the upper lip (Fournier.)

The effect of anti-specific remedies.

When the conditions in any case correspond with the characters just paragraphed, or when any of the distinguishing characteristics of brain syphilis, as previously given in this memoir, are present, the probability is that the disorder is specific and remediable. But the absence of these marks of specific disease is not proof that the patient is not suffering from syphilis. Headache may be absent in cerebral syphilis, as may also insomnia and somnolence. Epileptiform attacks are not always present in the pseudo-paralysis, and may be present in the genuine affection. A review of the cases previously tabulated shows that in several of them the megalomania was most pronounced; and a case with very pronounced delirium of grandeur, in which the autopsy revealed unquestionably specific brain lesions, may be found in Chauvet's Thesis, p. 31.

I have myself seen symptoms of general paralysis occurring in persons with a specific history, in which of these so-called diagnostic differences the therapeutic test was the only one that revealed the true nature of the disorder. In these persons a primary, immediate diagnosis was simply impossible.

Case fourteen of our table is exceedingly interesting, because it seems to represent as successively occurring in one individual both pseudo and true general paralysis. The symptoms of general paralysis in a syphilitic subject disappeared under the use of mercury, to return some months afterward with increased violence, and with a renewed obstinacy that resisted with complete success anti-syphilitic treatment. Such a case is some evidence that syphilis has the power to produce true general paralysis.

In conclusion, I may state that it must be considered, as at present proved, that syphilis may produce a *disorder whose symptoms and lesions do not differ from those of general paralysis; that true general paralysis is very frequent in the syphilitic; that the only perceptible difference is one of curability; that the curable sclerosis may change into, or be followed by, the incurable form of the disease.* Whether, under these circumstances, it is philosophic to consider the so-called pseudo-general paralysis and general paralysis as essentially distinct affections, each physician can well judge for himself.

NÆVUS TREATED SUCCESSFULLY BY LIQUOR ARSENICALIS.—Mr. W. Beatty, in the *Brit. Medical Journal*, notes that he has had great success in the treatment of nævi by the local application of arsenic. The preparation used is the ordinary liquor arsenicalis of the Pharmacopœia, with which the nævus is to be painted night and morning until ulceration takes place. The cure is effected in from three to five weeks.

A disconsolate looking doctor on meeting a Hibernian friend, attributed his sorrow to the fact that he had just returned from his vacation and found his wife in bed with cerebro-spinal-meningitis. "Howly Moses!" says Pat, "and fwhy didn't yees shoot the Oitalian scoundrel."—*Medical Age.*

Original Articles.

AN OVARIOTOMY COMPLICATED BY OBSTRUCTION OF THE GALL DUCT BY A BILIARY CALCULUS.

DEATH OF THE PATIENT FROM SUPPRESSION OF THE BILE.

By A. M. Owen, M.D.,
Professor of Surgery in the Hospital Medical College, Evansville, Ind.
[Reported by R. H. Grube, Clinical Assistant at St. Mary's Hospital, Evansville, Ind.]

Mrs. L. age 42, married, and the mother of several children grown. When first seen by me she had much the appearance of a woman at term, and after a careful examination, both physical and microscopical, of the cystic fluid, the tumor was pronounced to be ovarian. The patient being in poor circumstances, and at a distance from the city, she was advised to come to St. Mary's Hospital, which she did. She was anxious to have the tumor removed, and was quite hopeful. Her general health was not greatly impaired, and every circumstance seemed to warrant the operation. Accordingly she was put under preparation the day previous to the operation, by the administration of a cathartic and a light diet.

On October 10th the operation was performed, in the presence of Drs. G. B. Walker, B. J. Day, M. Muhlhausen, Chas. Knapp, A. M. Hayden, J. E. Owen, and others. The time occupied in the operation was a little more than an hour.

An incision was made from a little below the umbilicus, on the median line, nearly four inches toward the os pubis, dividing the various structures on a director, exposing the peritoneum. All hemorrhage was entirely stopped before proceeding further, then the peritoneum was divided on the director, exposing the shining walls of the cyst, much to our satisfaction, as doubts had been expressed by some of those present as to the correctness of the diagnosis, believing it to be abdominal ascites. An attempt was then made, after passing a sound around the tumor, and satisfying myself of the absence of adhesions, to draw off the cystic contents by means of a large-sized canula and trocar. All attempts to do so were vain, owing to the tenacity and gelatinous condition of the fluid. The canula was removed, and an incision made, large enough to admit the hand, which was introduced, when the cyst was found to be multilocular. After emptying its contents and securing the pedicle, which was short, with a clamp, the greater part of the tumor was removed, so as to be out of the operator's way. The pedicle was then ligatured securely with silk, and the distal end removed, close to the ligature, and the stump dropped back into the abdominal cavity. All oozing of blood was carefully checked by the application of hot carbolized water, and after satisfying ourselves that no blood or fluids remained in the abdominal cavity, the wound was closed, first with deep silver wire sutures, passed so as to include the peritoneum, and the superficial surface by adhesive strips. The whole was covered with absorbent cotton, and secured by a flannel bandage.

Special care having been taken to leave no fluid in the abdominal cavity, no drainage had been provided for. No other antiseptic measures were employed than that secured by thorough cleanliness and the use of carbolized water for washing the hands of the operator and assistants, and for keeping all sponges, instruments, etc., in when not in use.

The weight of the tumor was twenty-six pounds.

The patient rallied from the operation very satisfactorily; there was no appearance of traumatic fever. Vomiting followed, as a result of the anæsthetic, but this ceased entirely in a few hours, by which time her temperature was 98°, pulse 112, and respiration 19. Hypodermics of morphia were given at intervals of four hours, at first, but this was changed to powdered opium, one grain every two hours, until the bowels were quiet and pain had ceased. Everything progressed favorably, with but slight variations of temperature, etc., and the appearance of the patient's menstrual discharge on the fourth day, which she said had been appearing at intervals of two weeks, until the seventh day, when her temperature suddenly rose to 101·6° with the pulse 140 and respiration 24. The fluctuations of temperature, assuming an evident periodicity, were attributed to malarial influence, especially as there were lacking other signs of septicæmia or peritonitis, and quinine was given, both per rectum and stomach. Her condition remained much the same until the fourteenth day, when the patient began to assume a jaundiced appearance, with tongue coated, stools white and offensive, with profuse diarrhœa at times. She complained of pain in the region of the liver, and presented all the symptoms of one suffering from extensive biliary disturbance. The temperature gradually declined to normal, where it remained, with occasional fluctations. The patient, however, showed signs of inanition, though seemingly taking enough nourishment to sustain her, and gradually losing ground, died on the twenty-fourth day.

The following is a tabulated showing of temperature, pulse and respitation observations, taken twice a day, about 8, A.M. and 5 P.M.:

Date.	Temp.	Pulse.	Resp.
Oct. 10	99·5°	112	19
11	99	101	19
	99·3	110	18
12	98·2	90	18
	99·5	104	19
13	98·5	118	18
	98·5	118	17
14	98·5	116	18
	98·5	112	18
15	98	114	16
	98·5	118	
16	101·6	140	24
	100	130	21
17	100·5	100	16
	103	128	25
18	100	125	25
	103·5	126	
19	99·5	106	25
	101·3	112	24
20	99	98	21
	102·5	120	24
21	101·5	198	24
	101	92	20
22	100·6	104	
	102	108	36
23	101	100	34
	99·5	88	36
24	101·3	100	32
	101·2	118	32
25	101·1	125	33
	101	134	40
26	98·8	128	28
	99·5	130	30
27	98·3	120	26
	98·4	130	27
28	98·8	118	23
	102	135	30
29	99·6	126	24
	99·5	120	32
30	97	116	36
	101·3	136	35
31	99	104	24
	102	120	34
Nov. 1	101	124	36
	98·6	120	36
2	98·5	110	35

An autopsy was held a few hours after death.

An incision through the cicatrix showed the wound thoroughly united in the deep part. The contents of the abdomen showed the results of a general peritonitis, the intestines being adherent to the abdominal walls and to each other. Pus was present throughout the abdomen, but not in abundance. There were large patches of lymph coagula on the surface of the liver. An examination of the gall cyst and duct revealed the presence of a biliary calculus as large as a chestnut, impacted in the hepatic duct.

The stump was found nicely embedded, with the ligature completely encysted, in the right cornus of the uterus, *with no pus nor signs of inflammation surrounding it.* The other organs showed no serious disturbances. Attached to the vermiform appendix, however, was a small cyst, the size of a small hen's egg, containing a fluid of the same consistency and appearance as that found in the ovarian cyst. The fluid seemed microscopically the same, also.

Correspondence.

PHILADELPHIA NEWS.

Editors Lancet and Clinic:

The new announcement of the university of Pennsylvania has made its appearance, containing some interesting reading. In the medical department there are 12 Professors, 4 clinical Professors and 2 auxiliary Professors. Under the head of demonstrators, lectures Assistants and Instructors there 39, making a total of 57 connected with that branch of instruction. The Hospital service has 30 physicians connected with it, 3 being residents.

The Dispensary Service has 38 physicians in its service, making a total of 115 physicians engaged in the Medical Department. The class coming up for examination in May, numbers 112. All the other medical colleges in this city, graduate their classes next month, but the University, having lengthened their course of instruction, has postponed "Commencement Day" until early in May.

The first of the commencements occured the other evening, being that of the Philadelphia Dental College, the graduating aclass numbering sixty-five, two being ladies.

Not long ago there appeared in the wards devoted to children at Blockley Hospital, an epidemic of measles. The disease assumed a severe form, and the little ones possessing that frail and vicious constitution usually found in such a class of patients, the death rate ran high. Owing to some misunderstanding with the Board of Guardians, Dr. Bernardy, the visiting physician in charge of the wards, tendered his resignation, which was immediately accepted.

As there are several among the many applicants who have devoted much attention to obstetrics, the Gaurdians will find it a difficult matter to make a selection.

That measles should kill so many children at Blockley, is not surprising. The old building has long ago become unfitted for the purposes of a hospital.

The drainge is a matter, that has been receiving much attention of late, and the number of patients in the building is too great for its size. Then too the class of children found in an institution of this kind are not of that healthy type calculated to resist disease. Most of them have received nothing from those bringing them into the world, except a weak, sickly constitution, the diathesis that renders them ready victims to disease.

Considerable attention is again being directed toward the subject of dispensaries, and it would not be surprising to hear of a movement, to suppress some of them in this city.

In Philadelphia there over forty dispensaries and twenty-two hospitals. Some time ago it was estimated that in one year, there were more than one hundred and fifty thousand persons, in this city, receiving free medical attention, out of a population of 85,000. How many of these individuals abused the kindness shown to them and took the charity intended for those, who were really unable to get the attention their sufferings demanded?

The action of some physicians in regard to dispensaries is an injustice to those entering the profession, taking from them many a patient who is able to pay for services. There are dispensaries in this city, that are run for the purpose of advertising those connected with them, enabling certain medical men to draw the attention of the public, to the immense experience and advantage they possess over other men in the profession.

The subject of dispensaries is a broad one, presenting many sides *pro.* and *con.* The day will no doubt come when some definite action will be taken in regard to them as there are many conscientious members of the profession, who will not see the *deserving* poor imposed upon, or submit to their own business being affected by others, who run a dispensary merely for their own selfish ends. Sometime I will say more upon this subject, as it is one that needs some agitation in your city probably, as well as here.

The discussion of Dr. Formad's paper on "The Baccillus Tuberculosis and the Etiology of Tuberculosis" has been concluded, at the County Society and the matter of contagion in consumption, is no nearer settlement now than before.

It is a vexed quesition, the difference of opinion probably being due to a confusion of the terms infection and contagion.

In Philadelphia the majority of physicians hold, that the disease is not contagious, yet some members of the County Society have given the subject much attention and are in accordance with the views advanced by Koch. We have all seen cases, where it seemed as though phthisis had been contracted from another. I have met with three such instances in my own limited experience.

This is the season of the year when a great many of our fashionable inhabitants visit the sea-shore. If you were at Atlantic City on a clear Sunday morning, you would see the beach covered with people. The weather there is really milder and more settled than here at this season, there being upwards of ten degrees difference in temperature.

The Lenten Season having arrived, there is an end to dinners, "at homes" and "teas", so it is quite the thing, to visit Atlantic City and obtain the recuperative influence of the sea, after the dissipations of the winter.

Speaking seriously though, it really is a fact that persons who are delicate or predisposed to pulmonary troubles, get through March and April much better there, than they do here in the city, while with children in the later stages of pertussis, there is nothing equal to the sea-air.

A story comes from Baltimore, that a tattooed woman has given birth to a child bearing upon his body all the marks possessed by the mother. Upon the baby, in corresponding points to the mother, are designs of flowers, anchors, chains, eagles and other figures. I cannot vouch for the truth of the story, but can point to a somewhat similar case, seen in the Pennsylvania Hospital several years ago. A woman in the last month of pregnancy fell down a flight of stairs. In her hand was a lighted lamp, which exploded setting fire to her clothing and burning her quite severely. She was taken to the hospital and during the night gave birth to a child, whose body contained blisters at points corresponding to the blistered spots on the mother. I counted several myself. Dr. Morton has spoken of this case in Ashhurst's Surgery.

At the last meeting of the Pathological Society, Dr. Hughes exhibited two specimens of suppurative nephritis; Dr. Bruen, one of enlargement of bronchial glands and Dr. DeSchweinitz, one of cystic degeneration of the fœtal kidney, but as you receive abstracts of the discussions it is not necessary for me to speak of them. The next meeting of the Society will be wholly devoted to a discussion of hepatic affections. Dr. Musser will present a number of specimens and open the discussion.

The report of the Health Officer for the past year shows 8,231 marriages, 21,237 births and 20,006 deaths, against 8,521 marriages, 20,098 births and 20,059 deaths in 1882.

During the month of February 1,618 deaths were reported, 823 males and 795 female. Small-pox exists to a very limited extent, there being only ten cases in the Municipal Hospital.

Before writing another letter, I shall find time to attend a clinic, at one of the hospitals, in order to report you some surgical cases of interest. M. S. French, M.D.
Philadelphia, March 3. 1884.

IN RE HOSPITAL EXAMINATIONS.

Editors Lancet and Clinic:

A short paragraph in the last issue of the journal, apparently written as a simple inquiry, but seemingly intended as an imputation on certain members of the Faculty of a local college, deserves notice and reply, because the majority of the profession are unaware of the true nature of the facts involved. The paragraph reads as follows:

"By the way, why is it that the examinations for the positions of internes at the Cincinnati Hospital should be conducted chiefly by professors in a certain medical college in this city, when students from other colleges are competing for the positions? Would it not present a fairer aspect if the gentlemen of the staff, not connected with any college, would conduct the examinations?"

Why would it present a fairer aspect, unless the questions mean to directly imply that those members of the College Faculty, who are also officers of the Hospital, are incapble of honestly passing upon the examination papers—an imputation that is utterly false and without foundation? Why should these gentlemen not have the right of examining the classes, to whom they have lectured for an entire winter session, in company with their non-collegiate brethren of the staff? You are in error in supposing that the examinations are conducted chiefly by the members of a certain College Faculty, since they are participated in by the entire staff, which is composed of fourteen members, of whom six are not connected with any college, two are professors of the Ohio College, and six are professors in the Miami Medical College. The examinations are not, therefore, conducted *chiefly* by professors in a certain medical school; and the answer to the first question, beginning "Why is it," can be very briefly couched in the following terms: "Because it is not."

As regards the second part of the question, the question is entirely unwarranted. With regard to the Hospital examinations, the following method has been adopted for at least six years past, and its fairness is evident upon its face. The students desiring to compete for the positions, having complied with the necessary requirements as stated in a printed rule of the staff, assemble on the morning of the first examination in the Library of the Hospital, and each of them draws from a collection of numbered slips, prepared for the purpose, a number; this he incloses, with his card, in an envelope, seals the envelope, and throughout the entire examination he places upon his examination papers, not his name, but the number which he has drawn. (The sealed envelopes, bearing the names of contestants, with their numbers, are handed to the Superintendent immediately after the drawing, and deposited by him in the safe of the institution, where they remain, undisturbed, until after the election.) In the examinations, which comprise the following branches, Medicine, Surgery, Obstetrics, and Diseases of Children, Ophthalmology, and Pathology, five questions are given in each department, and two hours are allowed for writing answers to these five.

The members of the staff, in passing upon the merits of the respective papers, select those which, in their judgment, may be the most deserving, by the numbers attached to the paper, being all the time ignorant of the names of the parties represented by the several numbers. In the final election the balloting is taken upon the numbers, and it is only after the members of the staff have elected the six successful numbers that the envelopes are obtained from the Superintendent, and the staff informed, by its Secretary, of the names of the contestants.

By adopting this plan all members of the staff are entirely removed from the temptation of allowing their college pride, partisan feeling, or individual favoritism to sway them in the selection of internes from year to year, since they can not tell, merely from the numbers, for what parties they may be casting their vote. To withdraw from the examination, as suggested by your questioner, would be a tacit admission on the part of those members of the staff connected with any college that they were incapable of casting an honest vote under these provisions, and that, in spite of all measures to the contrary (though how I can not see), they would favor their own students in the examination. If such a charge could, for a single moment, be sustained, the Trustees of the Hospital ought not hesitate to dismiss in disgrace such offending member of the staff.

Unless it be that your questioner is seeking to imply this accusation, the above explanation will certainly satisfy him that it "would NOT present a fairer aspect if the gentlemen of the staff, not connected with any college, would conduct the examinations," since the conditions of utmost fairness exist in the provisions for the examination and the subsequent balloting.

Very respectfully,

A Member of the Cincinnati Hospital Staff and a Professor in a "Certain Medical College."

[In publishing the paragraph referred to by Prof. Eichberg, we believed we were correct in stating that a majority of the Cincinnati Hospital staff consisted of professors in one of the colleges. It seems we were in error. Nor do we wish to be understood as charging that the professional part of the Hospital staff are dishonest in the conduct of the interne examinations; but the impression has been widespread and general among students of the other colleges that they would stand a poor show in a competitive examination for the interne positions. We believe, from the explanation as given above, of the method adopted in conducting these examinations that they have been impartial. Nevertheless, it is well to bear in mind the fact that the Cincinnati Hospital is a city institution, supported entirely by taxation; that the rights and privileges of competition for interne positions are equally open to all students alike; and yet to a very great body of them who look over the situation, not knowing the character and honorable standing of the various members of the staff, they make application to become competitors with a very great deal of diffidence, innately feeling that the chances are against them in obtaining an appointment. We believe that never before this has the method of conducting the examinations at the Cincinnati Hospital been publicly made known; the system commends itself to us as a good one. While we believe in the absolute integrity and enviable character of the entire staff of the Cincinnati Hospital, we are firm in our opinion that it would be much more satisfactory to the entire student public if it was known and thoroughly understood that these interne positions were open to a competitive examination before a board of examiners having no college connection whatever. Such an examination would be free from even the possible appearance of unfairness. While discussing this subject, we remember to have heard two members of the Miami Medical College Faculty strongly advocate and urge the enactment of a law creating a State Board of Examiners, to pass upon the qualifications of all medical students before the colleges should be allowed to grant them a diploma entitling them to practice medicine in the State, such Board to be constituted of men having no college connection. This would be an application of the same principle advocated by us for interne examinations for the Cincinnati Hospital. We advocate the plan believing it would be equally fair for all, and positively disclaim any intention of casting any reflections on any member of the Hospital staff that is other than to their credit as men of the purest character and just motives.—EDITOR.]

THE AVONDALE MURDER AND ITS MEANING.

Editors Lancet and Clinic:

I have been informed that the publication of the article with the above heading in your issue of last week has left in the minds of members of the profession connected with the Ohio Medical College the impression, that the article reflected upon the College itself and, thus, upon those, who were responsible for its good standing. I must say, that I fail to see anything which can be construed in this sense, and must disclaim, as strongly as I possibly can, any such intention. Neither the standing of the College, nor its professors personally are, so far as any professional man can see, concerned in the whole transaction; and, had it seemed possible to me, that the thoughts expressed were ambiguous enough to admit of any approach to this interpretation, the article should never have been offered for publication. I hope you will allow me the opportunity of publicly making this statement, so that, if fault there be in the matter it may rest, not in the intention, but in its imperfect execution.

The purpose that underlay the writing of the article was to point out that the real responsibility of the murder lay in the laxity of the criminal law, which indirectly favored the occurrence of crime, by inflicting either trifling punishment, or allowing of delay after delay in the execution of its sentence.

No one would for a moment think of associating with it in any way the Faculty of the College, who, as is well known by the profession, are not in the habit of visiting the dissecting-room, nor cognizant of what goes on within it, and I had been careful as I thought, to point out in one paragraph that the fact of the bodies being deposited at the College could not be construed as making it responsible, since the Demonstrator, Dr. Cilley, could not have entertained any suspicion of the way in which the material promised to him, was to be obtained.

I would be glad of the opportunity of making another correction in regard to a conversation, supposed to have been participated in by Dr. Cilley, in which an idea was thoughtlessly suggested that might have had some moral influence in the commission of the crime. I have been told that I was mistaken in supposing that this was matter of public information, though in this particular I am sure I am not the only mistaken party. Since this conversation did not occur, all remarks based upon it must be, and hereby are, completely retracted.

The concluding paragraphs call attention to another lesson to be learned from it, and that is, the necessity for registration of material disposed of under the State Anatomy Act, together with a better administration of the law, in order that the business of grave-robbing should come to a close. This is a point that I can only insist upon again as being of great and pressing importance. In this part, as in those that had preceded, I must again assert that I can find nothing that could even suggest an imputation on the College or its Faculty, or in any way associate them with the occurrence; and I beg to assure them especially, and all your readers, that I most deeply regret that they should have placed such a construction upon it.

It seemed to me that an occurrence of such grave importance should not be allowed to pass without notice, and without endeavoring to read its lesson. If I have been mistaken in this, I can but record my sorrow; if not, it will be shown by leading eventually to a correction of those factors which are now at fault.

Very truly yours,
JOSEPH EICHBERG.

THE next issue of the LANCET AND CLINIC will contain a report of the Cincinnati Medical College Commencements.

THE CINCINNATI
LANCET AND CLINIC
A Weekly Journal of
MEDICINE AND SURGERY,
ISSUED EVERY SATURDAY.

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EDITOR AND PUBLISHER,
281 W. 7th STREET, CINCINNATI, OHIO.

SUBSCRIBERS TO THE LANCET AND CLINIC who have not already remitted their subscription will confer a favor on the publisher by promptly doing so.

Cincinnati, March 8, 1884.

The Week.

AT the next meeting of the Academy of Medicine, March 10th, besides the exchange of officers and addresses by the retiring President and President-elect, the subject of "Cancer," with reports of cases by Drs. Whittaker, Conner, Wm. Judkins and others, will be the theme for discussion in which the members are invited to participate.

THE local city press has for some days been teeming with articles overflowing with insinuations and inuendos against the Faculty of the Ohio Medical College, connecting them indirectly with complicity in the Avondale murder.

This is simply a monstrous outrage, and a dastardly attack upon a body of men whose whole lives are a refutation to such a charge.

ACADEMY OF MEDICINE.—At the last meeting of the Academy, Monday, March 3d, 1884, the following officers were elected to serve for the ensuing year:

President—Dr. W. H. Wenning.
First Vice-President—Dr. A. Ravogli.
Second Vice-President—Dr. E. W. Walker.
Recording Secretary—Dr. G. A. Fackler.
Corresponding " —Dr. Wm. Judkins.
Treasurer—Dr. Geo. E. Jones.
Librarian—Dr. L. J. Fogel.
Trustees—Drs. A. E. Heighway, J. L. Cleveland and Bernard Tauber.

DEATH OF A STUDENT.—G. W. Guthrie, of Washington County, Ohio, died at Cincinnati, March 2, 1884. The resolutions adopted by his fellow-students and classmates are as follows:

Resolved, In behalf of the Faculty and students of the Medical College of Ohio of 1883–4, that we tender our sincere and heartfelt sympathies to the bereaved parents and friends of our deceased brother student and classmate, G. W. Guthrie, who has been taken from us by the cruel hand of death. He contracted the disease which overpowered him while laboring in the work, which was honored by his earnest and indefatigable efforts. His mark was high, and he would have reached it but for the interposition of the Divine One, which we can not but accept.

Resolved, That we, the Faculty and students of said College, do give as a tribute to his memory, which will ever remain fresh in our hearts, a floral offering.

Resolved, That a copy of these resolutions be sent to the parents and friends of our deceased brother student, and also that a copy be submitted to THE CINCINNATI LANCET AND CLINIC and to his home papers for publication.

E. G. REYNARD,
F. HIBBARD,
B. F. TUMLIN,
J. E. KING,
C. F. ADAMS,
Committee.

THE ELEVATION OF THE STANDARD OF PRELIMINARY EDUCATION.—The following circular is self explanatary and commends itself to the profession. The subject will be brought before the state society at its next meeting in Columbus in June.

To the Medical Profession:

For some years we have thought of the subject under consideration, and how best to bring it before our medical brethren. In the early part of 1883 we prepared a set of resolutions and a schedule of requirements to present to our County Medical Society. In the meantime the Medical Society of the State of Pennsylvania at the annual meeting in May, 1883, adopted a schedule of subjects for medical examinations; thereupon we modified our schedule to secure uniformity, leaving our resolutions as before, incorporated the two and presented them to our County Society where they were adopted unanimously. The time has come to make a move in this matter. Why should not Ohio come abreast with Pennsylvania? Why should not we require as thorough preliminary study as the medical departments of either Harvard or Yale Colleges? In short, why not meet the demands of the times and the dignity of our profession? Many of the members of the faculties of our medical colleges are in sympathy with the move. In conversation with the dean of a Columbus medical college he said "The illiteracy of many medical students is lamentable and a positive disgrace to the profession." Why not take steps to prevent this being said against our students in the future? Any young man of energy can in a reasonable time master the schedule of requirements.

As an initial move, the following resolutions were unanimously adopted by the Trumbull County (Ohio) Medical Society, January 31, 1884, and Drs. Julian Harmon, J. R. Woods and T. H. Stewart, appointed Medical Examiners.

In accordance with Resolution VII we respectfully ask the Society of which you are a member to early report your action in this matter, so we can present this subject for consideration at the next annual meeting of the Ohio State Medical Society.

Yours fraternally,

JOHN I. KING, M. D.

Burgh Hill, Ohio, Feb. 14, 1884.

TO REGULATE THE STUDY OF MEDICINE.

Resolved, I.—I·That this Medical Society shall annually elect a board of Medical Examiners, to consist of three members, whose duty shall be to examine applicants for admission to the study of medicine.

Resolved, II.=All applicants for admission as students of medicine under the tuition of members of this Society shall present themselves before the Board of Medical Examiners and satisfactorily pass examination in the following requirements:

"I.—A written statement, previously prepared, setting forth the candidate's course of study.

II.—An essay.

III.—Writing from dictation.

IV.—Spelling—Oral and Written.

V.—Reading.

VI.—Geography—Descriptive, Physical.

VII.—Political Economy.

VIII.—History—Ancient, Modern.

IX.—Geology.

X.—Botany.

XI.—Chemistry.

XII.—Natural Philosophy.

XIII.—Mathematics—Arithmetic complete; Algebra, through quadratic equations; Geometry, through plane geometry.

XIV.—Languages—English, standard school edition of English Grammar; Latin, Cæsar's Com., 4; Virgil, 4; Cicero's Oration, 2. Greek, the Reader; Gospels; Xenophon's Anabasis, 2."

Candidates for examination may elect in French, Keetle's Collegiate Course in French, Composition, Translation and Reading, and Lacomb's History of the French People, instead of Cæsar's Com., Virgil and Cicero's Orations; and in German, Whitney's German Grammar, Composition, Translation and Reading, Schiller's Willheim Tell and Goethe's Faust instead of the Greek Reader, Gospels and Xenophons Anabasis, but such elementary knowledge of Latin and Greek will be required as to enable the candidate to intelligently comprehend the etymology of medical terms derived therefrom.

Resolved, III.—No member of this Society shall receive any person as a student of medicine unless he present a favorable certificate from the Board of Medical Examiners.

Resolved, IV.—The time of study required by members of this Society shall be five (5) years including lectures.

Resolved, V.—Members of this Society shall recommend their students to attend only such medical colleges as either require an examination for admission similar to the one required by this Society, or make the full three-years' graded course of study obligatory for graduation thereform, and otherwise endeavor to elevate the standard of medical education.

Resolved, VI.—That this Society requests the Ohio State Medical Society to adopt the foregoing schedule of requirements and to use its influence to secure legislation making the same obligatory upon persons entering their names as students of medicine in the State of Ohio.

Resolved, VII.—That these resolutions be printed and a copy sent to each Medical Society in this State with the request that they early report their action thereon.

Adopted by the Trumbull County (Ohio) Medical Society, January 31st, 1884.

That portion of the above schedule of subjects for examination within quotation marks was laid down in a resolution by the Medical Society of the "State" of Pennsylvania in 1878, and adopted by that Association at their annual meeting in Norristown, Pa., in May, 1883.

LOST. — A Loring Ophthalmoscope, Tuesday, February 27th, on the way to the Cincinnati Southern Railroad Depot, or on the train between Nicholasville, Ky., and this city. A suitable reward will be paid for its return to DR. J. H. BUCKNER, N. W. Corner Sixth and Walnut Streets, Cincinnati, O.

Selections.

MEDICINE.

KAIRIN.—Although this drug is now being used more and more in this country, and many medical men have already made observations on it, some of which we may soon expect to see published, it is still from Germany that the greater part of our information regarding it comes. The readers of this journal for the last fifteen or sixteen months must be aware that it has already proved itself a certain, powerful, and safe antipyretic, but that its action varies somewhat in different individuals, and that in consequence, the proper dose for each person has to be acertained by observation.

Dr. Guttmann reports in the *Berliner Klinische Wochenschrift* that he has employed it in eighty-six different cases, that patients complained of the taste very much, so much so, that it had to be given in wafer paper or some such vehicle. In doses of 7 to 15 grains, he says, temperature was speedily reduced, and in many cases was normal 4½ hours afterwards. The reduction of temperature is accompanied by profuse sweating. Sometimes vomiting was produced, singing in the ears but rarely.

The rigor with which the rise of temperature is accompanied in some cases is proportionate to the degree of previous artificial reduction. The action of the drug is not diminished by use. The course of the disease is not in the least altered by the exhibition of the medicine.

Cohn and Zadek report in the *Deutsche Med. Woehenschrift* that kairin always succeeds in reducing febrile temperature, but they were not able to keep the temperature always low in continued pyrexia, nor did they succeed in remittent fever in preventing exacerbation by giving the drug simultaneously with the commencing rise, and repeating the doses hourly. In intermittent fever, and especially in the malarial form, even large doses did not cut short the attack.

Menche cannot recommend the drug in phthisis, typhus or pneumonia, as collapse is sometimes observed as a consequence of its administration in the latter two affections. The results are more favorable in acute rheumatism. He thinks it may take the place of salicylate of soda in this affection.

Korach (*Deutsche Med. Zeitung*) would not recommend kairin in either typhus or pneumonia, as he observed marked collapses after its employment. He concedes, however, that it is one of the most certain antipryetics, but thinks it only suitable for hospital practice, as its concurrent effects require that the patient should be constantly watched, and the temperature taken every hour or two.—*Medical Press.*

ANGINA PECTORIS.—At the Academie de Medicine a member brought under the notice of his colleagues the results of an autopsy made on a man who succumbed two days after his entering the Hotel Dieu to an attack of angina pectoris. For a year and a half previously he used to complain of severe pain in the præcordial region, with constriction of the base of the thorax, and irradiation of the pain toward the left shoulder and down the inside of the arm. The attacks at first took place every month, but afterward became more frequent, recurring three or four times a week. The access was generally brought on by an emotion, quick walking, and especially by a copious repast; it lasted from a quarter to half an hour. Auscultation revealed a bruit at the first sound. At the autopsy a very notable dilatation of the aorta was found at its origin, and was diagnosed during life, with insufficiency of the valves of the same name, although the sigmoid valves were perfectly healthy. But what, above all, that struck the attention, was the exceedingly narrow orifice of the coronary arteries. The member concluded in giving it as his opinion that the malady was produced by the lesion already mentioned of the coronary arteries, and cited the observations of Potain, Seé, Huchard, etc., in support.—*Medical Press.*

THE MODE OF PRODUCTION OF THE TENDON REFLEX.—Jendrassik (*Centralbl. für die Med. Wiss.*) has made a number of experimental studies of the various conditions which are necessary for the presence or absence of tendon reflexes, particularly for the patellar reflex. The following conclusions express the most important of his results:

1st. The "knee phenomenon" is a true reflex action, brought about by the mechanical irritation of the nerves situated in the patellar tendon. It is not necessary that the stimulus should be applied at the junction of muscle and tendon: stimulation of the part of the tendon lying farthest from the muscle is equally efficacious.

2d. For the production of the reflex muscular contraction it is necessary that the muscle be passively extended: to a certain degree the contraction of the muscle is proportional to the stretching to which it is subjected.

3d. Voluntary innervation of the crural nerve diminishes the patellar reflex, or may prevent its appearance altogether. Contraction of the muscles innervated by the sciatic nerve, however, instead of preventing rather favors the development of the patellar reflex.

4th. The path of the reflexes lies in the spinal cord only in the gray matter. Lesion of the white columns cannot directly be a cause of the absence of the reflex.

5th. Physiological increase of the tendon reflex is also produced by contraction of the other body-muscles: thus, simultaneous lifting of weights, or strong stretching of muscles, increases the reflex.

6th. In the majority of cases pathological increase of the patellar reflex may be regarded as the result of an interruption of the conduction of inhibitory impulses from the brain to the spinal cord.

7th. The author does not regard the "foot phenomenon" as a reflex, but rather as a tonic contraction, directly produced through the mechanical stimulus given in the sudden stretching of the soleus; the irritability of the muscle must therefore be increased.

In five instances severe stretching of the crural nerve in rabbits left the patellar reflex unaltered.—*Medical News.*

THE LESS OBVIOUS SYMPTOMS OF GASTRIC ULCERS.—In the *Medical Times aud Gazette*, the following remarks on the less obvious symptoms of gastric ulcer occur. In cases of gastric ulcer, it does not appear necessary for the pain to be *severe*; many cases of pain between the shoulders at a certain definite spot, or, more rarely, of a similar pain at the epigastrium, if properly inquired into, will give a history of vomiting of blood at some time or other, and this may be only of so slight a character that the patient does not mention it. Many cases, however, of gastric ulcer occur without hemorrhage, as is especially shown by the rapidly perforating ulcers in the anterior wall of the stomach, unchecked in their fatal course by any adhesion to other organs. One practical aid in the diagnosis of the obscurer cases is the condition of the tongue, which is rarely coated or furred in cases of gastric ulcer, but is markedly so in cases of gastritis. As to treatment, nothing succeeds so rapidly as perfect rest to the stomach.—*Medical Record.*

THE TREATMENT OF ANEURISM OF THE AORTA.—In his graduation thesis, reviewed by the *Rev. de Thérap.*, for January 15, Lecointre recommends the use of iodide of potassium at a dose of 1¼ to 4 grammes daily; digitalis may be advantageously combined with it in some cases, and the addition of some extract of opium prevents the unpleasant effects of iodism. The cough, dyspnœa, and dysphagia soon diminish, and the tumur shrinks to some extent, but the treatment must be continued for about six months.—*London Med. Record.*

CHANGES IN THE INFERIOR VENA CAVA OCCURRING WITH CIRRHOSIS OF THE LIVER.—The study of œdema of the subcutaneous connective tissue in cirrhosis and the thereby induced belief that this œdema could not be explained wholly by the mechanical conditions existing in the liver, led Dr. De Giovanni to examine particularly the condition of the vena cava in this affection. These investigations disclosed the fact that the œdema in question was owing chiefly to disease, and consequent disturbance in function of the vena cava ascendens. He found peri- and endophlebitis, thickening of the adventitia, hypertrophy of the entire wall of the vessel and increase in the size of its lumen. In one case of cirrhosis of the liver, in which, notwithstanding that there was no meteorism and marked ascites, no œdma was present, he predicted the absence of the disease of the vena cava, and the correctness of his assertion was confirmed at the autopsy. — *Centralblatt für Klinische Medicin.*

The Sixth Annual Meeting of the Sanitary Council of the Mississippi Valley will be held in the city of Memphis, Tenn., on *Friday, March* 21st, 1884.

WIRT JOHNSON, Mississippi,
DAVID P. HADDEN, Tennessee,
JOHN H. RAUCH, Illinois,
Executive Committee.

"THE premature Brougham," is the suggestive way in which a correspondent of an English journal refers to a common burden which weighs down the young practitioner.

Mis-carriages are not absolutely unknown on this side of the Atlantic.

SOME POINTS IN THE DIAGNOSIS OF BRIGHT'S DISEASE.—Rob't T. Edes, M.D., contributes the following to the *Medical News:*

The name of Bright's disease has been attached to so many and such varied cases, and has lately been so broadened by high authorities, that a little inquiry into the correctness of this very general application is by no means undesirable. An excellent way to clear up one's ideas on the subject is for the student, or, still better, the practitioner, after he has become well indoctrinated into the pathological anatomy and symptoms as taught in the text-books, and after having made sundry excursions into the more speculative regions of "high tension" and "lithiasis," to consult the works of Dr. Richard Bright, when he will realize how much traveling in a circle has been done since they were published, and might be tempted to remark that what Dr. Bright didn't know about Bright's disease is n't worth knowing. This would, however, unless looked at simply as expressing his just admiration for the completeness of the discovery of that eminent physician, be a decided exaggeration. One of the points which he did not know, and which have since been found out, is the extreme frequency with which some symptoms of the affections going under this name are met with, as consequent to or associated with other diseases, where they assume entirely a secondary role in importance. What he did not know, and what no one yet knows, is the nature of the connection, so well understood to exist, between the cardiac, vascular, nervous and renal changes. At present the fact is so well known that many affections which would once have been characterized as independent diseases, such as apoplexy, dropsy, and cardiac disease, are very likely to depend upon, or to be associated with, a chronic nephritis which has before given no decided sign of its presence, that this condition is likely to be diagnosticated as an explanation of almost any sudden and serious set of symptoms, and the diagnosis may be sustained by the exhibition of what are supposed to be the pathognomonic features, viz., albumen and casts in the urine. Thus a case of coma from opium-poisoning may present a very close resemblance, not only in the general condition, but in the state of the urine, to the sudden supervention of so-called uræmic symptoms.

The public is willing to accept Bright's disease as an explanation of almost anything obscure or unexpected. Any middle-aged or elderly man who has a pain in his back, a little difficulty in urinating, or, on the other hand, some incontinence of urine, or who notices in his chamber-pot on a cold morning a deposit, full, to him, of the direst forebodings, but known to the chemist as urates, can be made to believe that he has Bright's disease as easily as a broken-down anæmic woman, with a pain in her back, can be persuaded that she has "womb complaint."

The amount of truth in the two cases is enough to save the doctrine from contempt, and make it worth while to consider some of the mistakes in diagnosis somewhat seriously.

The desirability and importance of setting right the misapprehensions of a supposed sufferer are by no means small, from the amount of mental relief which is thus given, and the question loses none of its importance when considered in reference to the advertisement of "cures" and stories of wonderful recoveries.

It is not necessary, of course, to point out to physicians that neither pain in the back nor its absence, nor the irregularities in urination just mentioned, have any direct value in the diagnosis of Bright's disease, but there is reason to suppose that some other symptoms have attained a position of somewhat exaggerated importance in the minds even of the profession, and are considered more conclusive than experience shows them to be.

Albuminuria is now so well known to occur in a great variety of diseases, and even in some conditions not involving serious or permanent impairment of health, that it is to be looked on rather as a reason for further inquiry than as having by itself a very distinct meaning. Casts, especially of the hyaline variety, are not so generally known to belong very much in the same category. While the writer does not agree with Charcot in believing that casts may occur in a healthy urine, any more than that a purulent sputum comes from a healthy bronchus, it is undoubtedly true that they are often found under circumstances where nothing more than a temporary disturbance of the renal circulation, or some local irritation, exists as a cause. The kidney may be more or less affected, but it is not so primarily, and the renal trouble is not the essential one. Thus, it is not unusual to find a case of valvular disease of the heart, or even of general failing health, connected with fatty degeneration of the heart and consequent feeble circulation, suspected of being Bright's disease from the presence of albumen and casts in the urine. The renal atrophy of old age is not infrequently attended with casts.

If we turn to another symptom, which is of the highest importance in diagnosis, which should always be inquired for, and, if necessary, investigated by daily measurements, namely, polyuria, we find ourselves confronted with another set of difficulties. Of course, the practitioner will not allow himself to be led astray by the statement that the patient arises several times in the night to pass water. This is, to be sure, a suspicious circumstance; but it may arise from a local irritation, or even from simple nervousness. (In the latter case, by the way, the valerianate of zinc has been found a very effectual remedy.) A real polyuria may exist in surgical cases from irritation of the neck of the bladder, retention of urine, and back water in the kidneys, or from a renal calculus. This may be accompanied by albumen and a few transparent casts, and is dangerously near to the line which separates irritation from a chronic interstitial nephritis, which is not infrequently the final result. It is not, however, Bright's disease, and the distinction is a highly important one, since, if the local obstruction or cause of irritation can be removed by surgical measures, the renal atrophy is not necessarily progressive. This kind of polyuria is to be distinguished by the presence of the causative lesions, and especially by the presence of an excess of mucus, pus, and epithelial elements from the urinary passages.

A moderate polyuria of nervous origin, or, in other words, a mild diabetes insipidus, may, from the presence in small amount of the abnormal elements we have been considering, assume the appearance of chronic contracting kidney. The difficulties of diagnosis are by no means slight when we find ourselves in the presence of a case involving not only polyuria with albumen and casts, but nervous symptoms, such as are commonly found in this combination, as vomiting and headache. A cerebral tumor may present the greatest similarity of symptoms to a chronic nephritis, and we may have not only the phenomena just mentioned, but, in addition, others which are more or less common in the two diseases. These are optic neuritis (although this generally presents points of difference, as it may be associated either with intercranial pressure or with arterial degeneration and retinitis) and also high arterial tension. This latter condition, although often present in chronic nephritis of the interstitial form, is too frequently found in other affections to have the supreme importance recently attributed to it, either in reference to diagnosis, pathology, or treatment. The writer, several years ago, was demonstrating a sphygmograph to a little circle of medical friends, and just as the instrument was writing off a tracing which should have been highly characteristic of Bright's disease, or chronic interstitial nephritis, on the wrist of a gentleman about sixty years of age, another asked, "What is this high-tension pulse they are talking about now?" The question was evaded as well as possible, but the subsequent career of the patient, if so he could be called, as well as that of another member who gave a similar tracing, was watched with much interest. The first died about three years afterward, but as both the symptoms and the autopsy showed in the most conclusive way, of cirrhosis, not of the kidney, but of the liver. The second is still, at the age of seventy or thereabout, actively practicing his profession.

The symptoms which are most characteristic in each of the affections mentioned above, which are to be specially sought in any case of doubt, are in cerebral tumors, *localized* headache, paralytic conditions of limited groups of muscles or spasm of corresponding groups, and the etiology, which is likely to be syphilitic. For the nephritis, we have the cardiac hypertrophy and the dropsy, usually slight. It is, however, but rarely that the two diseases will approach so closely that the analysis of the urine affords no assistance in making the distinction.

Migraine may be closely associated with polyuria, albumen, and casts, and then certainly makes about as perplexing a problem as can well be met with; one which it is probable can only be solved by time, and even then not so conclusively as to leave the physician and patient altogether free from unpleasant doubts.

It is, of course, open for any one to say that such a case is only in the early stage of a chronic form, and it would be almost impossible to disprove such an assertion. The writer has had under observation for some years a lady who has for a long time been subject to severe headaches, with vomiting. She has had constantly a small amount of albumen and a few casts in the urine, which is rather abundant and of low specific gravity. The sphygmograph shows somewhat high tension. This looks like a pretty clear case of progressive interstitial nephritis, but although the headaches are perhaps more severe, in the intervals the patient is able to be out and about. At one time she greatly improved under a milk diet, and there has been no appearance of the more characteristic symptoms, such as cardiac hypertrophy or dropsy. Time alone in such a case can assure us that chronic interstitial nephritis will not become more manifest, and go on to the usual termination.

Some of these obscurities in diagnosis may help to explain many of the "cures" of Bright's disease. While the writer would not be understood to deny the possibility of an arrest of a chronic nephritis of either form, which may amount to a cure with a more or less damaged but still sufficient kidney, yet the ordinary professional and lay opinion as to the extreme rarity of such an occurrence, is undoubtedly correct; and a few of the cases where a complete recovery from chronic Bright's disease is said to have taken place, will bear a close scrutiny. Where the diagnosis is that of the ignoramus, or of the interested quack, it is not worth while to spend time in accounting for remarkable cures. The explanation is very simple. As has already been said, it does not require a specially credulous patient to accept such a diagnosis, and the marvelous feats of therapeutics are very easy if the intending performer has the opportunity to make the diagnosis to suit himself, and retain it uncontradicted. In other cases, however, I believe that mistakes have arisen from, firstly, the very distinctly intermittent way in which many cases of Bright's disease pursue their course, or perhaps to the occurrence of exacerbations which disappear under the influence of rest, warmth, and appropriate treatment, and give place to decided improvement, which may be taken for recovery. I have seen a man with parenchymatous nephritis, marked cerebral symptoms, and great dropsy, leave the hospital well enough to make a voyage to sea before the mast, and return with the same symptoms, of which, although I have lost sight of him, I have no doubt he finally died. Again, an attack of acute nephritis does not always begin with pain in the back, fever, and exceedingly scanty urine, which at once signify its character; and if appearing, as it not very rarely does, simply as a rapidly increasing dropsy without marked pyrexia, cerebral phenomena, or in fact any of the classical symptoms to announce its true character, it is very likely to be taken for the development of a previously latent chronic disease. If this suspicion is taken as a certainty, and the patient then recovers, the case passes for one of a wonderful cure of Bright's disease, instead of what it really is, the usual and natural result of acute nephritis. Even in the nephritis of scarlet fever, some of the signs, especially casts, may hold on so long as to deceive one into thinking of chronic rather than of acute disease.

In some one of these ways nearly every one of the reported cases of "cure" can be accounted for, without either doing great violence to our only too well-founded pathological ideas or impugning the good faith of lay narrators.

PROGNOSIS IN HEART-DISEASE—DISEASES OF INDIVIDUAL VALVES.—An abstract of a Lecture Delivered before the Harveian Society of London, BY W. H. BROADBENT, M. D., F.B.C.P. Lond, *and published in the British Medical Journal.*

Aortic Stenosis—We have been considering the general prognostic indications in valvular disease; we have now to take up the study of affections of individual valves. The first valvular change to be considered will be aortic stenosis; and we are at once struck by the contrast between Walshe's statement, "that narrowing of the aortic orifice stands first in the order of frequency among valvular diseases," and the statistics of the *post mortem* records of St Mary's Hospital, as edited by Dr. Phillips, which give only eleven cases out of 151, with a few more in which stenosis of this orifice was associated with insufficiency of the valves. The explanation of this discrepancy is found in the fact that the systolic basic murmur, which is the diagnostic sign of aortic obstruction, is producible by other causes than obstruction. All the cases in which a systolic aortic murmur was audible have been classed as cases of aortic stenosis; while in only a small proportion of them was this condition present. I have only recognised that, while a systolic aortic is one of the commonest of the valvular murmurs, actual narrowing of the orifice is the most rare of the valvular changes.

A systolic aortic murmur may be due to several causes, which will now be enumerated.

1. Anemia may be mentioned first. It is not well understood how it is that watery blood, deficient in corpuscles, gives rise to murmurs; but the fact is exemplified by the venous hum heard in the neck, by the pulmonary murmur, and also, though less commonly, by a systolic aortic murmur; this accompanies the first sound, and does not substitute itself for it. With this anæmic aortic murmur may be grouped the hemic murmur of very similar character, which sometimes accompanies or follows acute febrile disease of long duration, such as typhoid and rheumatic fever.

2. Mere roughening of the orifice or valves, or impaired flexibility of the latter, slight congenital malformation, fenestration of one or more of the cusps, a shred of fibre hanging from the edge of a valve, may give rise to a loud systolic murmur, without offering the least obstruction to the course of the blood.

3. Dilatation of the aorta just above the valves, the orifice and valves remaining uncharged, produces a murmur; the blood passing through an aortic opening of normal size into a larger cavity beyond is thrown into eddies, the vibrations of which produce a sound heard as a murmur. In none of the above mentioned conditions is there stenosis of the orifice or obstruction to the stream as it issues from the heart; the condition last named has dangers of its own, but they do not arise from aortic obstruction.

4. Acute narrowing of the mouth of the aorta is almost always due to changes in the valves, the cusps of which may be stiff and rigid with rounded and thickened margins; or adhesion may have taken place between the valves at the angle in which they meet; or, without being greatly thickened, the valves may be affected with atheroma, which destroys their flexibility, and puckers and contracts them, and may go on to calcification.

5. It is also possible, that by dilatation of the ring at the root of the aorta, valves, not themselves greatly diseased, may be so put on the stretch that they cannot fall back, but remain as an obstacle to the stream of blood.

It is clear that the first point to be ascertained, when a systolic murmur is present, is, whether it indicates the existence of obstruction or not; in this we shall be greatly assisted by the history and existing condition of the patient. We should conclude that that murmur was hæmic when there was marked anæmia, or if the patient were convalescing from an acute illness, especially if murmurs were heard at other valves as well. A systolic aortic murmur appearing at middle age or in advanced life will seldom be done to actual narrowing of the orifice, but will be caused by roughness or rigidity of the valves, or by dilatation of the aorta above the valves with perhaps atheromatous irregularities in its walls. The significance of such a murmur at this period of life varies enormously; it may be produced by a harmless tag of fibre, or it may indicate aneurism of one of the sinuses of Valsalva, but it is rarely that as actual obstruction that injury results. The loudness or character of the murmur does not give us much help; hæmic aortic murmurs are usually soft and smooth, but so also may be murmurs due to extreme narrowing, especially when there is weakness of the ventricle, and languid propulsion of the blood; thus the gradual enfeeblement, and ultimate disappearance of a systolic aortic murmur, may be a most serious prognostic fact.

We turn now to the changes in the condition of the heart produced by aortic stenosis. The change, by which aortic obstruction will be overcome, will be hypertrophy, of the left ventricle. The physical signs, therefore, of the position and character of the apex-beat and impulse, and the modifications of the sounds will enter into the diagnosis of actual narrowing of the aortic. The character of the aortic second sound may aid in distinguishing hypertrophy compensatory of obstruction from the hypertrophy attending renal disease; it will usually be indistinct in the former, and always accentuated in the latter case. Almost more important than the hypertrophy of the left ventricle, will be the character of the pulse. The pulse-wave will be long and slow; the artery will be small and full between the beats of the pulse; a large sudden pulse is incompatible with aortic stenosis unaccompanied by regurgitation; and when it is a question whether or not an aortic systolic murmur is due to obstruction at the orifice, the pulse becomes the most certain criterion to which we can appeal; if there be an apparent contradiction between the indications of the heart, and those of the pulse, the latter must dominate. Even when there is co-existing aortic regurgitation, which tends to render the pulse large, sudden, and collapsing, the development of these characters is interfered with by stenosis. Nearly all authors concur in making aortic stenosis the least dangerous of the valvular affections, and, on *a priori* considerations, such would seem to be probable, but this conclusion will scarcely seem quite secure, if the cases of systolic aortic murmur, without actual narrowing of the orifice, are eliminated; the relative danger of real stenosis cannot, without further experience and inquiry, be estimated with confidence; but, it is certainly greater than has been supposed.

As a rule, aortic stenosis proves fatal by the slow operation of dropsy, and for the most part mitral regurgitation is present either as a secondary consequence of dilatation, or, as an independent affection produced by the endocarditis which damaged the aortic valves. So long as the obstruction at the aortic orifice is uncomplicated by mitral change, the danger attending the disease will not be imminent. The secondary changes will take the well known backward course. Beginning with the hypertrophy, there will follow dilatation of the left ventricle, favoured by anæmia or any other form of debility; then will come systemic stagnation, from diminished propulsive power in the ventricle; and sooner or later there will be regurgitation through the mitral valve, resulting either from the dilatation, or from actual lesion of the valve or its tendinous cords, produced by the increased pressure consequent upon the powerful contraction of the ventricle, or from the combined operation of these two influences. This marks a downward step, and makes the prognosis grave. It further appears to me that, dropsy having once set in, there is a smaller probability of recovery than in most other valvular affections, it being always understand that when this complication has been prematurely induced by exposure or exertion there is some hope that it may be successfully combated and warded off for a time.

Aortic Incompetence or Regurgitation.—The diagnostic sign of this condition is a murmur produced by the backward rush of the blood from the aorta into the left ventricle during its diastole, audible in different cases over very different parts of the cardiac area. The direction in which the diastolic murmur is conducted has not seemed to afford distinct information diagnostic of the particular cusps most affected. The vibrations which cause the murmurs are conveyed to the surface by the walls of the ventricles, and not by the contained blood; the blood, thrown by the vibrations into sonorous eddies, will communicate the vibrations to all parts of the ventricular wall indifferently, and not impinge upon any special point, carrying thither the sound. The amount of blood returned into the ventricle is a matter of the first importance, in estimating the prospects of life and comfort before the patient, and we have now to consider the different sources of information on this point.

The murmur itself affords but vague indications. Generally speaking, a loud murmur is a proof that the heart is acting with vigor, and also that the leakage of the valves is not excessive; it is, therefore, among the favorable auguries. On the other hand, a weak, short murmur, indicating an opposite state of things, may be a note of impending danger or death. But there are so many exceptions to the rule hinted at that it is not to be relied upon absolutely. A very important auscultatory sign, however, is the presence or absence of the aortic sound in the neck. The point of this sign is this: The aortic sound is produced by the sudden tension of the aorta and its semi-lunar valves, at the moment of the closure of the latter; it is not their clicking as they meet, nor the tension of their valves alone under the column of blood, but the vibration of the entire ascending aorta. If, then, the incompetence be considerable, there can not be the sudden check to the column of blood which sets the aorta vibrating, and the diastolic murmur takes the place of the second sound. If, on the contrary, the leakage be only small, the required check or shock is given by the closing valves, and the second sound is distinct, although there may be a murmur. It is not the murmur drowning the sound, the murmur may be loud or feeble. In the neck it is not heard, and listening here we have the advantage of being out of reach both of the murmur and of the pulmonary second sound. A second sound in the neck indicates that the regurgitation is small in amount, and is consequently a very favorable prognostic element.

Other evidence on the question of the amount of the regurgition is obtained from the changes which it has produced in the heart. It has already been pointed out that if the normal amount of blood is to be propelled through the systemic arteries, when a certain proportion of that sent by each systole into the aorta is returned into the ventricle, an increase in the capacity of the ventricle is necessary — it must be dilated. This process is effected by the distending influence of the backward pressure from the aorta during the diastole of the ventricle, when the muscular fibers are relaxed and unresisting. Finally, hypertrophy results from the excessive function, energy and activity imposed upon the walls of the ventricle by the mechanical conditions present. It is in aortic incompetence that the extremes of dilatation and hypertrophy of the left ventricle are met with, and they are, with certain qualifications, the measure of the regurgitation, in the absence of symptoms such as conspicious breathlessness on slight exertion, faltering action of the heart, with tendency to fainting or giddiness. It is an interesting and important question as to up to what age effectual compensation for serious aortic regurgation is possible. In my own experience, all really satisfactory examples have been among those in whom the valvular lesion has been established under the age of twenty. The amount of dilatation attending a given degree of incompetence will vary according to the amount and duration of the care bestowed upon the patient during the first few months of its existence. If he have been allowed to leave his bed too early and engage in exercise before the heart has fully recovered from the effects of acute disease, the dilatation will have gone farther than if due precautions had been observed till the strength was fully restored. Another effect of the regurgitation, the characteristic pulse attending it, must be considered before all the prognostic indications can be brought to a focus. This is the well known collapsing or water-hammer pulse; the artery at the wrist is large, empty between the beats, which latter are short and sudden. The cause of the collapse after each sudden pulsation is that in consequence of the loss of support of the aortic valves, the column of blood is not sustained, and it drops out of any vessel which is above the level of the heart, in obedience to gravity; so, in order that all these features may be fully realized, the hand must be above the level of the heart, and above the shoulder or elbow. The arteries are large because the entire contents of the left ventricle, expanded to two or three times its normal capacity, are launched into the arterial system, distending it momentarily in a corresponding degree. Other consequences are that the pulsation in most of the arteries becomes visible, especially in the carotids, brachials and temporals; the arteries are tortuous, the radial pulse becomes audible on raising the hand, and pulsatile reddening of the palms of the hands, or of a red patch on the forehead, induced by friction, is observable, especially when pyrexia is present.

The collapsing character of the pulse is indispensible as an evidence of aortic regurgitation, unless there is concommitant stenosis, which may interfere with the suddenness of the beat and with the completeness of the collapse. In the entire absence of this modification of the pulse, a diastolic basic murmur would not indicate any considerable regurgitation.

Bringing together the elements of prognosis in aortic regurgitation, at a period when symptoms have not become prominent, and when, therefore, compensation is fairly effectual; if, with the diastolic murmur, the second sound be distinctly audible in the neck, the dilatation and hypertrophy are inconsiderable, and the pulse exhibits the collapsing character only in a moderate degree. If, moreover, the valvular affection be only the result of endocarditis, and therefore probably stationary, the patient may enjoy life, and do hard work, untroubled by symptoms of any kind, for years. A case was related of a medical man known to have had aortic regurgitation for twenty-six years, in whom the late Dr. Sibson had given a favorable prognosis on exactly these grounds, which was verified by the patient's having carried on a hard-working country practice, with all its trying incidents. When he was examined in October, 1883, the aortic second sound was still audible in the neck; the hypertrophy and dilatation had reached only a moderate degree, and the visible pulsation in the carotids and collapsing pulse at the wrist, while quite characteristic, were inconspicuous.

Aortic incompetence sufficient to abolish the second sound in the neck, and to give rise to considerable dilatation and hypertrophy, and to well-marked collapsing pulse, may for many years be compatible with apparent health and strength. The patient will be capable of ordinary work and exercise, but will be sooner out of breath on going uphill, or from any unusual exertion, than a man in health; or may feel suddenly faint and giddy, instead of losing his breath. The future, under such circumstances, must be estimated on the principles laid down in the first lecture. After calculation of the degree of valvular inefficiency, we must consider the tenacity of the family constitution and the vigor of the individual, the age, habits, occupation and circumstances; bearing in mind that even in the most favorable cases the nutrition of the enlarged heart will not be well maintained after middle age, and that as years increase there is a tendency to increased resistance in the peripheral circulation. We must look, therefore, for failure of the heart and accession of symptoms, sooner or later—at best, before the natural term of life; and, besides this, there is the possibility that the compensatory equilibrium may, at any time, be dangerously disturbed, or finally overthrown, by imprudent exertion or anxiety, or acute illness of any kind — a possibility which becomes a probability in certain cases.

When the disease is established early in life, even extreme damage to the valves may be so far compensated by dilatation and hypertrophy that the subject may live for many years, as was illustrated by a case in which acute rheumatism at the age of fourteen left behind regurgitation, with a maximum amount of dilatation and hypertrophy, together with secondary mitral regurgitation, and exaggerated signs of every kind, which the patient survived for fourteen years, earning his livelihood as a greengrocer. He died suddenly in May, 1881, during convalescence from slight subacute rheumatism; when the aortic valves were found to be practically non existent, and the heart weighed forty-two and one-half ounces.

When, on the other hand, aortic regurgitation comes on late in life, partly from the fact that it will, in most cases, be progressive, and partly from the diminished aptitude of the heart to undergo compensatory changes, the prognosis is most grave. An example was related in which a fatal termination followed the establishment of the disease in a gentleman aged thirty-four, at an interval of only sixteen months. In these cases the presence or absence of the aortic sound in the neck is of extreme importance. The unfavorable prognosis dates from its disappearance, which in some cases is delayed for a considerable time.

We have still to trace the symptoms which lead up to a fatal termination in the form of valvular disease under consideration. They fall into two series, according as to the ultimate effect on the circulation is arterial stagnation, from a lack of *vis à tergo*, so-called asystole, or venous obstruction. In the former class there occur syncopal and anginoid attacks, paroxysms of dyspnœa, a sense of oppression in the chest, pain in the cardiac region, irregularity and intermission in the pulse and heart beat, which replace the regularity which prevails up to the moment of incipient failure of the heart. Dropsy is significantly absent, and there is no habitual dyspnœa. The *pulsus bis feriens* is felt (this is a peculiar double beat, felt on moderate pressure; it is produced by a double systolic effort of the heart). The characteristic irregularity of the pulse begins with the occasional occurrence of a short and rapid beat which breaks the rhythm. It is difficult to decide whether it is an abortive systole or an attempt to supplement a systole which has been more or less inadequate; it succeeds the previous beat very quickly, and has a longer than normal pause after it. It is when the predominant tendency is to arterial stagnation that sudden death is liable to occur, and, as said before, aortic incompetence is the one valvular affection in which this danger exists.

Dr. Walshe's statement that sudden death is more liable to occur in simple cases — that is, cases not complicated by dilatation and hypertrophy — is not borne out by the statistics of St. Mary's Hospital, nor by personal experience outside the hospital; but in a certain sense it is true—viz: as applying to aortic regurgitation occurring late in life.

In the other series, in which the final symptoms are due to pulmonary or venous obstruction, the last stage does not differ materially from that of mitral disease. The mode of causation is, in fact, almost identical, since insufficiency of the mitral valve is an intermediate stage in their production. There must, however, be an imperfect filling of the system from the arterial side, as well as an obstruction in the veins, which must be an aggravation, and must contribute to the hastening of the final and fatal stasis of the vital fluid. The supervention of mitral regurgitation has been said to be an element of safety, by preventing paralysis of the heart from over distension. Sudden death, however, occurs in spite of it, and the danger in aortic regurgitation arises, not from resistance to the systole, in which case alone mitral incompetence would afford relief, but from undue filling in diastole, which it would directly tend to aggravate. Serious inadequacy of the mitral valve being once produced, its effects will gradually develop themselves in backward pressure upon the pulmonary veins, with consequent congestion of the lungs, cough, shortness of breath; next, hypertrophy and dilatation of the right ventricle, and, finally, dropsy.

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Society Reports.

ACADEMY OF MEDICINE.

Meeting of February 5, 1884.

T. A. REAMY, M.D., *Chairman pro tem.* W. H. WENNING, M.D., *Secretary.*

Epileptic Insanity.

DR. PHILIP ZENNER read a paper on the above subject. (Published in the LANCET AND CLINIC of February 9th, 1884.)

DISCUSSION.

DR. WHITTAKER remarked that the essayist had presented all that is known of this subject in so thorough a manner that he left little room for discussion. The speaker did not know how many epileptics there are in the United States but it is said that in France there are over *forty thousand*, and of these only four thousand are confined in institutions, leaving the remainder free, a constant source of danger to the community. The subject of epileptic insanity is of great importance on account of its bearing to a judicial investigation for crime. Physicians are often called upon to testify to the responsibility of a person, who is an alleged epileptic, to the guilt of a crime laid to his charge. The speaker had been thus called upon several times to give testimony in criminal cases in regard to the perpetrator's mental sanity, and but a short time ago he with the Chairman at this meeting had to give testimony in such a case ; the individual in this instance was freed to the great disgust of the public.

As a rule imbecility is the gradual sequel of the earlier victims to this affection. Epileptic insanity usually follows the lighter forms of epilepsy, an observation first made by Esquirol and Morel and mentioned since also by others. If, in a given case, the attorney of a criminal finds any trace of epilepsy in his client, he forthwith substantiates this fact by an infinite array of similar cases as a defense. There are so many cases on record in all countries that epilepsy really constitutes the best defense. The essayist's classical description showed the distinction between epileptic insanity and other forms of the affection. It occurs very suddenly with an access of furor and is transitory; the great barbarity and cruelty with which the crime is committed characterizes the affection. Another characteristic is the absolute want of repentance, "a dryness of the affections" as Legrand du Saulle calls it. A patient may be attacked with this form of insanity, where epilepsy is not recognized before, and, indeed, often it is found only after the crime has been committed. It follows with much greater frequency the lighter forms of the disease.

It of all forms or expressions of epilepsy is least amenable to treatment. The bromides may relieve, mitigate, the disease but do not cure it; it is a significant fact that the *petit mal* is least affected by bromides. They may, however, control the convulsions. A recent writer in the German Encycloped. of Medicine says that only five per cent. of cases of epilepsy are cured.

DR. RAVOGLI thought it unnecessary to make a distinction between epileptic insanity and insanity complicated with epilepsy. Often an attack is preceded by furor, mania, and followed by a comatose condition which afterwards disappears. Esquirol, however, in an examination of 339 epileptics found that most of them were affected with some mental disease; some were idiots which were also epileptics, others were first insane and then became epileptic. When epilepsy lasts a long time it deranges the brain and the patient becomes demented; this dementia is accompanied with attacks of hallucinations which induce the patient to commit either suicide, or homicide, or other crimes. If epilepsy is only symptomatic it may be improved and even cured, especially if the attacks are not frequent. It is, however, often difficult to diagnosticate because the aura epileptica may be absent and the state of unconsciousness may last for only two or three seconds and thus escape notice. This is the most dangerous form because these attacks by their frequency at last derange the mind.

Symptomatic epilepsy is possible of recovery, but not idiopathic epilepsy, that is, that form of the disease brought on by pathological changes in the brain. Large doses of bromide of potassium have been given without any result; nitrate of silver, valerianate of zinc, etc., have been recommended, but not followed by any curative result, although they may lessen the frequency of the attacks. Finally, however, dementia sets it.

DR. FORCHHEIMER remarked that epilepsy is also a disease of childhood but not in the form, as a rule, as described by the essayist. The condition of imbecility said to follow the disease in adults also holds good for children. Frequently the *petit mal* is overlooked in the young; infants may be attacked with epileptic convulsions which are not recognized and thought to be due to other causes. As the child grows older a diagnosis may sometimes be made, but even then the disease is often overlooked because we can rely on objective symptoms only in children and observation here does but little good. The *petit mal,* if it continues a long time, always develops into imbecility. For this reason the speaker would rather see the *grand mal* than the *petit mal* in a child, for it then can be better observed and consequently better taken care of.

He also once testified in a case that no epileptic ought to be held responsible for his deeds. He thought it better to make a mistake in this direction than to punish innocence. We have no means of guaging the accountability or consciousness of the individual at the time when the deed was committed. However, the speaker considered it another question, one perhaps not yet positively to be answered, whether it would not be better to confine all epileptics. This method might succeed in curing more of these unfortunate victims, because (1) they would be better taken care of, (2) they would not be dangerous to their neighbors and (3) by not being allowed to marry, the disease might be limited from want of propagation; for we know that epilepsy is a hereditary disease and is a link in a whole chain of other diseases of the nervous system—the so-called neuropathic diathesis.

Dr. Young regretted that the essayist had not dwelt more on the pathology of epilepsy as he (Dr. Y.) had hoped to hear something new on the subject, because so far all explanations are unsatisfactory. He took it for granted, however, that if the essayist, who always pursued these subjects with so much diligence, could produce nothing new, no advances had recently been made in this direction.

As regards its medico-legal phase, the speaker regarded the mode of investigation as pursued in this country as altogether wrong. Instead of trial by a jury every criminal should be examined by a board of medical experts, a commission appointed for that purpose, as is done in Europe. Here every lawyer fetches up epilepsy, if possible, to exonerate the criminal. Such a board should decide as to the mental responsibility of the individual, who should be dealt with according to some general law, or be confined, as the circumstances might dictate; by this means much rascality would be punished and no irresponsible persons innocently executed. As a case in point the manner in which the investigation of the prisoner in the late National calamity was conducted is a disgrace to the profession in this country.

Epilepsy is subject to many varieties, from the weakest to the strongest forms of the disease. In a large percentage of cases there is some lesion in the brain, located by some in the fourth ventricle because this part is said to produce convulsions, and that the vasomotor centres below it become involved and the patient is unconscious at the time. To remedy this evil is a great problem; we cannot think of confining a whole community—these people exist and must be met.

As regards treatment epilepsy is like any other well-established disease; there is no treatment for it. The vast majority of its victims are in a condition far beyond our reach—we can do nothing. As we only treat symptoms, not diseases, we have failure in a disease so well established.

The frequency of epilepsy is well recognized and it is probably on the increase.

Dr. Ravogli replied, in reference to medico-legal investigation, that it is difficult to determine whether a person is an epileptic or not. He may have an attack but once a year, or once in six months, or epilepsy may occur only at night time and thus escape detection. It is very difficult to be present at an attack which may come on so suddenly and without any warning. The speaker would refer, however, to some interesting experiments in this direction, made by Prof. Maggiorani, the results of which must, however, be taken *cum grano salis.* These experiments are based on the influence of the magnet on the nervous system. It is said that if a magnet which raises about 500 grams be put upon or behind the head of an individual, some objective symptoms, as involuntary efforts at deglutition or abdominal contractions, will arise; but if the magnet be applied to an epileptic, he will forthwith have an attack. The speaker made some experiments of this kind on an epileptic, who had not a severe and only a symptomatic form of the disease, where the application of the magnet was followed by an attack.

Dr. Zenner enquired how a commission to investigate the mental sanity of a criminal should be appointed. Should it be through the profession, or by the State?

Dr. Ransohoff replied that the State has the power to make such laws and the profession as a body would support them; but it would be a matter of some difficulty to appoint a proper commission. Professional men will differ in this respect as in other things. An instance recently occurred in this city where a man was declared not insane and yet afterwards in a fit of mania killed his wife. Can we tell if we deal with an insane individual or with one subject to temporary epileptic seizures? This is a question, even for experts, difficult to decide, unless it be found that there is a history of previous epilepsy.

As regards the test of epilepsy mentioned by the previous speaker he would remark that the subject could be made more simple by compressing the carotids temporarily. It is said that anemia of brain causes the seizures and if by this compression the blood supply be cut off the epileptic attack will result. The speaker saw three or four cases in whom epilepsy was thus produced. He remembered one instance while in Würzburg where a man would get an attack in less than half a minute. Withal, it is, however, a cruel experiment. He recollected also a case in the Cincinnati Hospital. A man was brought to the institution apparently conscious, but he refused to answer questions put to him. Both motor and sensory powers seemed to be good. As he was considered a malingerer an electric current was passed through his body during which he shrieked and uttered inarticulate sounds. In the following night he had an attack of epileptic insanity; be became maniacal and pursued his attendants. When the fit was over he seemed perfectly rational and told the physicians to put their fingers on the back of his head. A depression in the skull was then found owing to the absence of a button of bone once removed by the late Prof. Blackman. Since that time the patient had occasional attacks of temporary insanity.

Dr. Whittaker said he must reply to several statements made by other speakers. In the first place, the essayist ought rather to be complimented than censured for having taken a narrow ground in the elucidation of his subject. Epilepsy is a subject so vast, especially in its pathology and pathogeny, that it would be impossible to discuss it in one evening in all its bearings; also the general consideration of medico-legal matter was out of place.

A tribunal in court is generally appointed by both sides, and for this purpose the best testimony possible is secured; but even the best men may not always coincide. The appointment of most medical officers is, after all, made by the laity; the attorneys choose their own experts, and if an appointment is made, it depends very frequently on favoritism. The National disgrace alluded to by a previous speaker is not adjudged by the people a mistake on the part of the experts; they are more apt to blame the surgeons that went before. He would not for a moment subscribe to such an opinion himself, but it simply showed the verdict of the people, who were really glad that the criminal had been executed, insane or not. We should be slow to blame experts on so difficult a subject.

Other subjects in this connection might have been discussed, as, for example, marriage contracts in epileptics, and the capacity of such persons in making a will. They have often lucid intervals; it is not fair to say that every epileptic should be exculpated. This doctrine would be dangerous to society. We must examine whether there be a motive for the criminal act, and whether there are appearances of reason rather than insanity. The question is as to the mental condition at the time of the crime.

Dr. Reamy thought that there must be some misapprehension as regards our present law. A good provision is made for the purpose of settling such questions. Two forms of tesitmony are admitted; the first consists in the application of the attorneys on both sides for medical men to examine the prisoner in jail, according to which they testify directly as medical witnesses. Then there is the expert testimony, by which a hypothetical case is put to the experts, which must conform in all particulars to what is proven by witnesses in the case under trial; whatever goes beyond that is not admissible. As this rests wholly on the testimony furnished, the friends of the criminal generally give the proper foundation for this testimony. The jury is then instructed by the court according to the opinions expressed by this expert testimony, and the jury renders its verdict accordingly.

Dr. Zenner asked whether the question may be asked, "Is this man insane or not?"

Dr. Reamy replied, Yes, it might be put directly.

Dr. Ransohoff thought such testimony would not be worth much. Any man might commit violence and a plea of insanity would be brought forth. A medical examination is demanded; one man goes into the jail and examines the man and immediately says he is insane; another examines him for fifteen minutes and says he is not insane. What reliance can be placed on such testimony?

Mr. Young thought expert testimony on a hypothetical case might not be satisfactory evidence. There ought to be appointed a commission which makes it a business to go into a very thorough examination of the criminal.

In reference to the late national calamity he would say that the best man to make an examination, who had put numbers of these men into prison to keep them out of mischief, and who from his experience was best able to render testimony, was kept out of court on a preconceived idea that he would probably exonerate the prisoner.

Dr. Zenner thought that if a committee would be appointed by the Academy to take measures how to remedy this evil, it might lead to some good; for the present method of ascertaining the mental condition and responsibility of the accused was as bad as it could be. To decide the question of insanity a prisoner ought not to be confined in an ordinary prison and then watched only for a few minutes, but he ought to be placed under the cantrol of experts and kept under observation for days, weeks, even months.

The speaker agreed with Dr. Whittaker that in investigating the responsibility of an epileptic, we must judge his act by the condition of the mind at the time when the deed was committed, and he did not believe that an epileptic should never be held responsible for his actions.

A question arises, to what extent do the changes of mind, dementia or insanity, follow the different forms of epileptic attacks? The general opinion is, a fact mentioned by almost every author, that mental impairment is more apt to follow the lighter attacks of epilepsy. The speaker however, noted one exception; Sommer, of Altenburg, states that according to his experience mental impairment follows more rapidly after the *grand mal* than the *petit mal.* He admited, however, that this observations are contrary to the experience of others. But as regards the occurrence of epileptic insanity the observations are different. Falret states that violent attacks usually follow the *grand mal*, whilst the slighter attacks follow the *petit mal.* The only author of whom the speaker read the contrary was Ecchevеria, who holds that the fiercer forms follow oftener the *petit* than the *grand mal.* The speaker was also of this opinion and gave the following as his explanation. As regards the pathology of epilepsy it has been the prevailing theory that the latter is a disease of the medulla and pons, the spasm and vaso-motar centres being both affected; the first produces convulsion, the second anemia and stupor. Hughlings Jackson, however, maintains that epilepsy is a cortical discharge, an opinion lately upheld by Unverricht as the result of some carefully conducted experiments, when he produced convulsions by irritating the cortex of the brain of animals. By this means be showed that these attacks passed over the body in direct relation to the arrangement of the motor centres in the cortex, so that convulsions follow in groups of muscles innervated by those centres which are in nearest relationship to each other.

The speaker then proceeded to state his explanation of the more frequent mental defects following the slighter epileptic seizures. If the seat of the disease is in the cortex we may believe that in cases of *grand mal* where there are violent convulsive seizures, the disease is located in the motor area of the cortex, whereas in cases of epileptic vertigo and *petit mal* the lesion may be in the parts of cortex, or in parts more directly relegated to intellectual activity, and hence in the latter instance mental derangement would be more likely, and in former instance, less likely to occur.

It is true we do not as yet know precisely what parts of the cortex are more nearly connected with motor, what parts with intellectual activity. It is not improbable that the two may after all be in the same geographical part, while in different layers of the cortex.

The same theory will help us to understand two other interesting conditions, the frequent recurrence of exactly the same delirium in different attacks, and entire forgetfulness which follows a paroxysm. If in different seizures the same part of cortex is always illuminated, the same association of ideas is likely to arise in the consciousness; and as one part of the cortex is illuminated to the exclusion of others, there is not that intimate association between the thoughts then uppermost, and those of occurring at other times which is necessary for their easy recollection.

As regards treatment not much confidence is to be placed in any of the different methods. Nevertheless the speaker must admit that he had seen beneficial effects follow treatment, especially with bromide of potassium; but he could not state positively whether a cure resulted or not

Bromide of potassium has not been in use very long, as epilepsy may recur after years and years it is difficult to say when the disease has been cured. Meinert had great confidence in this remedy and claims from his experience that he always succeeded with it. He gave it, however, in enormous doses, beginning with one grain until sixteen grains were taken. It is another question if in some cases these large doses had not something to do with a sudden death: yet in view of the serious nature of this disease such a risk might perhaps be taken.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Thursday Evening, February 14, 1884.

The President, DR. TYSON, in the Chair.

Aneurism of the Left Ventricle.

Presented by Dr. W. E. HUGHES.

To the kindness of Dr. M. B. Musser I owe the clinical history of this case, and the privilege of presenting the same as a specimen to the Society. Mr. P., æt 38 years, healthy, with the exception of a slight pain in the region of the heart on vigorous exercise, was attacked, September 20th, with left hemiplegia; motion was completely lost; sensation somewhat impaired, but by no means lost. The attack was rather sudden, and was preceded for some days by slight dizziness. There was no loss of consciousness. After treatment lasting over a month, he is so far recovered as to be able to walk, with the assistance of a cane, when he was seized, one night, while in bed, with a frightful attack of angina pectoris. During the next two or three days the attack was repeated several times, and at the end of that time there was a very plain double pericardial friction sound heard over the whole cardiac area. From this time on, the anginal attacks were neither so frequent nor so violent as before. He fell back dead, November 15th, while sitting up in bed to take a glass of water. Before the pericarditis developed, the heart had been carefully examined, with the result of finding no murmur. The area of cardiac dulness was enlarged, and the heart's impulse weak and diffuse. The pulse was weak, ranging from 75 to 80 in the minute, and very little accelerated even during the severest angina. The urine contained a small amount of albumen, no microscopic examination was made. There was at no time any œdema.

Autopsy, thirty-six hours after death. Body very fat. Rigor mortis moderately well developed. Abdominal and thoracic organs decomposing rapidly. Brain is larger than the average, very heavy and much convoluted. All its larger arteries are atheromatous, in places converted into rigid tubes, but nowhere is there any interruption in their lumen, or lesion of the brain substance. Some opacity of the pia mater, more marked upon the right hemisphere, anteriorally. In the meshes of the pia mater a large amount of straw colored serum, more especially about the motor areas on the right, and here the serum is tinged with blood, though there is no true clot. Very little serum in the ventricles. Lungs are congested, no lesion of their substance. About a quart of serum in the left pleural cavity, less found in the right, and firm adhesions upon its upper half. Universal pericarditis, cavity of the pericardium is almost obliterated by easily torn adhesions; where it is not obliterated there is a small effusion of flaky sanguinolent serum, and the pericardium is ribbed by a deposit of lymph. Heart is large, left auricle dilated, ventricle enormously dilated and hypertrophied, its wall 1½ inches thick; right side very little changed. In the left ventricle, involving one intraventricular septum and the wall about the apex, is a saccular dilatation capable of holding at least two fluid ounces, developed by a giving way of the heart wall. This cavity was filled by a firm, old clot, containing a cavity as large as a filbert, filled with genuine pus. The endocardium in the aneurism had been totally destroyed, and the clot was in places firmly adherent to the exposed and thinned muscular tissue. In the anterior wall the viscus had completely given way, over a very small area, and the rupture was filled by the clot, which projected slightly into the pericardial sac. A similar condition existed in the septum, the clot here projecting half an inch into the right ventricle. Owing to the clot filling these ruptures, there was no communication between the cavity of the left ventricle and that of the right ventricle, or of the pericardium. Heart muscle is fatty, corona is slightly atheromatous, and its valves rather rigid, though competent; other valves healthy. Coronary arteries not atheromatous. Liver congested, slightly cirrhotic. Kidneys enlarged, congested, cortical substance increased in volume, small spots of fatty degeneration, capsule strips off easily.

Dr. De Bruen thought it was of great interest to note the location of the aneurism was in the septum, toward the apex. This was an unusual site, because when due to ulcerative endocarditis, as was probably the case here the aneurism is usually situated at the base of the heart, about the attachment of the aortic valves. He had seen a case three or four years ago of aneurism of the heart, the result of ulcerative endocarditis, which was situated in the apex, but it extended toward the left, and did not affect the septum. In this case the pericardial cavity was completely obliterated at the site of the aneurism, where the pericardium formed the aneurismal wall. I tapped at this point for a pleural collection, but only withdrew blood when I desisted. Instead of doing harm, the tapping afforded relief and the pleural and other dropsical effusions were absorbed, the patient dying fully two years after the operation.

Dr. Tyson thought that the disease being situated at this point rather pointed to endocarditis of the cavity than to the ulcerative form. This had resulted in the formation of one of the so-called tendency spots, which gradually yielding, the aneurism had formed.

The rupture might have been of some years standing, as these interventricular ruptures are stated to be not very dangerous, and compatable with considerable prolongation of life.

Dr. Hughes said there really had been no communication between the heart cavities, as the opening was blocked by a clot which was evidently old.

Pernicious Anæmia. Presented by Dr. W. S. Hughes.

George A. C., white, æt 45 years, a clerk, was admitted into the University Hospital February 4th, in an intensely exhausted condition, with a history of an illness lasting over two and a half years. He had been for the last twenty years along the banks of the Potomac, in the midst of malaria, having had ten years ago intermittent fever lasting two months. His habits were all regular, and he denied any venereal taint. For the last three or four years he had been much worried by family and business matters. His father and a paternal uncle and aunt had died of apoplexy, his mother, and all his brothers and sisters of phthisis; of his own generation, all the the members were perfectly healthy. He was unmarried. Till he went into the army, during the war, he was well and strong; while there he had an irregular malarial fever, from the consequences of which, and of exposure, he never thoroughly recovered. Two and a half years ago he was attacked, without any obvious cause, by diarrhœa, and though his appetite and digestion remained good, he lost flesh and strength rapidly. His urine at this time was much increased in quantity, and was said to contain sugar. The diarrhœa continued for some months, and he became reduced almost to a skeleton, then it ceased, the urine fell to its normal quantity, or even below, and he regained much of the flesh he had lost, though his strength and general condition remained far below par. After some little while of this apparent improvement, he again commenced slowly to fail. Till within three months the functions of the gastro-intestinal organs were apparently well performed, since then he has had some slight heaviness in the epigastrium and flatulence soon after eating a hearty meal, and the bowels have shown a tendency to constipation. Since last June he has been unable, from intense weaknesss, to perform any manual labor. There has been no hemorrhage. On admission he was too weak to raise himself in bed, intensely anæmic, the whole cutaneous surface pale straw colored, the veins showing through as pink lines, the mucous surfaces scarcely distinguishable from the skin, and moderately emaciated. There was no œdema. The heart action was excessively weak, with the apex beat in the usual position, and over the body of the heart was heard a soft blowing systolic movement, lessened in intensity by firm pressure with the stethoscope. Over the jugulars and the lateral sinuses was heard a remarkably distinct venous hum. With the exception of a slight failure of eyesight, the special senses were normal. He answered questions intelligently, but slowly, as though too tired to think rapidly. In the lower extremities he complained bitterly of a feeling of soreness, saying his legs felt as though they had been beaten with a stick. In twenty-four hours he passed one quart of urine, acid in reaction, no albumen, no sugar, specific gravity 1012. Two days afterward he was weaker, and had lapsed into a mild, wandering delirium. Examination of the blood gave 665,000 red corpuscles and 6,000 white corpuscles to the cubic millimetre. The red were rather pale, exceedingly variable in size, some of them being even twice as large as normal, and others very small, and many of them tailed and otherwise irregularly shaped. Examination of the eye-ground was rendered difficult by his derilium, but no acinal hemorrhages could be detected. He died February 8th.

Autopsy (Notes by Dr. Formad) three hours after death. No rigor mortis. Moderate amount of soft, flabby adipose tissues, especially beneath the peritoneum. Blood pale, everywhere fluid, no clots, even in heart. The marrow in the tibia, humerus and sternum was red, the fat being, in a great measure, substituted by encysts and forms intermediate between white and red blood cells, and a few giant cells. The heart was rather small, and very pale, valves were normal. The lungs contained a few calcified nodulæ in the apices, and were universally adherent to the chest walls and diaphragm. The bronchial and mediastinal glands enlarged, some of them calcified. The liver weighs three pounds, and was pale and anæmic. The spleen was normal in size, and was rather congested. The pancreas was rather diminished in size, and indurated. In the left kidney a few depessed cicatrices, not unlike old gummata; kidneys are, with this exception, normal, but anæmic. The stomach shows some characteristics of chronic gastritis. No enlargement of any lymphatic glands other than those noted. Nervous structures were not examined.

Dr. Formad said that the marrow, especially of the upper extremities, showed in a marked degree the typical currant-jelly appearance, first described, he believed, by Drs. Pepper and Tyson.

Dr. J. W. Musser said that some of the clinical features of the case were unusual, especially the absence of retinal and other hemorrhages. The heart, too, is usually fatty, and he had thought that medullary bone changes were unusual, the text-books on pathology containing such statements. He brought the matter forward, as he would like to have some light thrown on such discrepitant statements.

Dr. Bruen thought that the bone changes occurred more frequently when the case was idiopathic than when there was a malarial history, as in one case seen by him.

Dr. Tyson said that the description of pernicious anæmia in the pathological textbooks was very vague, and no mention was made of bone changes such as described by Dr. Pepper and by himself in Virchow's Archives some years ago. This paper seems to have been entirely overlooked.

Dr. Sidney Roberts had had the opportunity of examining the fractured femur of a woman suffering from this disease, when he noted appearances identical with those presented by the humerus before the Society this evening.

Excision of the Shoulder-joint. Presented by **Dr. C. B. Nancrede.**

Annie M., æt. seventeen years, was admitted to the female surgical ward of the Episcopal Hospital, May 14, 1883. One year ago last May she fell down stairs, and struck her shoulder; she was unconscious for a short time, but was soon able to walk home. The arm did not become inflamed, and seemed to the patient well. Nine months after the fall, she noticed pain in the shoulder, and an elevated papule formed near the joint, which was opened at the dispensary. This relieved the pain, but left a fistulous tract, discharging healthy pus. She attended the dispensary until the 14th of last May, when she was sent into the house, Dr. Seltzer, the Assistant Surgeon on duty, having touched dead bone with the probe. After admission, she had pain from time to time, gradually increasing in intensity until shortly before operation. Other free openings for drainage were made by Drs. Simes and Kelly. The probe detected an apparent sequestrum within the humeral head.

Diagnosis—Epiphyseal abscess, and strumous disease of the joint. The operation showed complete destruction of the joint; a carious and denuded humeral head, with an abscess about the epiphyseal site, containing a sequestrum. The glenoid cavity was denuded of cartilage, and roughened. The portion of head and shaft, such as you see, were removed, while all the glenoid cavity was cut away with the gouge-forceps, except where the long head of the biceps was attached.

Further details of the operation are unnecessary. The patient was practically well at the end of two weeks.

Excision of Astragalus. Presented by Dr. C. B. Nancrède.

Elvira —, æt. nine years, mulatto, a patient in the children's surgical ward of the Episcopal Hospital, received some slight injury of the right ankle-joint about one year ago, since when the usual symptoms of strumous arthritis have been noted. About two months since Dr. Packard freely opened the articulation and inserted an oakum seton. Temporary benefit ensued, but February 13, 1884, I found the bone so diseased as to demand excision. This was effected with great readiness by a semicircular incision upon the outer side of the joint, whereby the peroneal tendons were exposed, their sheath partially opened, thus admitting of their being drawn to one side, and the ligamentous structures of the astragalus easily divided. The bone was partially anchylosed to the under surface of the tibia and nearly all of its tibia-fibular cartilaginous surfaces were bared and carious. All the other tarsal bones seemed perfectly healthy.

A new medical college in Cincinnati, says the Louisville *Medical News*, has been organized, under the title of the Medical University of Ohio.—*Journal of American Medical Association.*

The above-named institution never existed, except on paper and in the minds of some charlatans whose sole purpose seemed to be to manufacture and sell diplomas.

At the next meeting of the Cincinnati Medical Society, Tuesday evening, March 18th, Dr. E. Sattler will read a paper upon "The present status of the tubercle baccillus question.

THE CINCINNATI
LANCET AND CLINIC
A Weekly Journal of
MEDICINE AND SURGERY,
Issued every Saturday.

Terms, $3.50 per annum in advance.

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DR. J. C. CULBERTSON,
Editor and Publisher,
281 W. 7th Street, Cincinnati, Ohio.

Subscribers to the Lancet and Clinic who have not already remitted their subscription will confer a favor on the publisher by promptly doing so.

Cincinnati, March 15, 1884.

The Week.

MEDICAL COLLEGE OF OHIO.

THE SIXTY-FIFTH ANNUAL COMMENCEMENT.

The sixty-fifth annual Commencement exercises of the Medical College of Ohio was held on the evening of March 7th at Music Hall, before an assembly that indicated the interest that is taken in this old medical institution, in view of the dismal weather, which was such as to make ordinary pedestrians fear that every step would afford in each individual a surgical case. Notwithstanding the inclemency of the evening, the audience was very large, and was certainly one of which the graduates should feel proud.

There had been an unusually large attendance of the Alumni in the afternoon, including many old members of the institution, among whom was Dr. J. T. Grubbs, of Kentucky, who has been a member since 1821, and who was the first graduate who received his diploma from the College. Dr. George T. Sutton, of Lawrenceburg, presided, and Dr. C. S. Muscroft, of this city, acted as Secretary, a position which he has occupied for the last nine years. The exercises, apart from the meeting and greeting of old friends, were interesting throughout, especially to the members of the profession present. A carefully prepared and instructive paper was read on the "Changes and Form of Diseases in the Ohio Valley," which embraced observations and results from an extended practice of about fifty years.

The paper of the Doctor contained many valuable points of interest and convincing examples, and was warmly commended by the assembly. The orator of the day, Dr. David DeBeck, read an essay on "Color Blindness," in which he presented examples of great importance and interest to railroad men and water craftsmen, and demonstrated the necessity of a knowledge of certain principles among men of these professions. Some discussion of the matter ensued, at the conclusion of which a committee was, on motion, appointed to memorialize the Legislature on the subject. Drs. J. C. Sutton, C. M. Finch, and David DeBeck constitute the committee.

The annual election of officers of the Alumni followed, with the following result:

President—Dr. Isaac V. Gard, of Gresaville, Ohio.

Vice-Présidents—Drs. W. W. Dawson, of Cincinnati; Horace Coleman, of Troy, Ohio; W. L. Richards, of Kentucky; James M. Davis, of Indiana; Joseph Aub, of Cincinnati.

Secretary and Treasurer—Dr. James French, of Cincinnati.

Corresponding Secretary—Dr. A. G. Drury, of Cincinnati.

An invitation was accepted from the Medical College of Ohio to attend the Commencement exercises in Music Hall in the evening, and to occupy seats on the stage.

The exercises at the hall were promptly opened on time, by music on the great organ by Prof. J. H. Schonaker, who played the "Coronation March," by Meyerbeer. This was succeeded by the following address of the occasion by the Dean of the College, Prof. W. W. Seely:

Ladies and Gentlemen—With the exercises of to-night ends the sixty-fifth annual session of the Medical College of Ohio.

On behalf of the Faculty I beg to assure the friends of the College, the Board of Trustees, and Alumni, that the College still occupies the same commanding position as in past years, and enjoys the same confidence of the profession, at home and abroad, as is testified to by the presence of the one hundred gentlemen of the graduating class, waiting to receive their diplomas from the hand of the President of the Board of Trustees, the Hon. Flamen Ball.

The Faculty have added still more to the thoroughness of the curriculum by perfecting the old facilites, by supplying new ones, and by increasing the number of instructors. The plan of and arrangements for the practical study of general anatomy, normal and pathologicial histology and chemistry, as now existing in the college, certainly admit of but little improvement. As regards the clinical study of diseases, besides the afternoon lectures and operative courses at the Hospital of the Good Samaritan, the dispensary in the college building, run entirely at the expense of the Faculty, and visited by many thousands of patients each year, is so divided that the student gets the advantage of seeing, in a short time, a large number of cases in the various departments. In addition it affords material for special private classes. The manner in which all new facilities for instruction are taken advantage of, demonstrates that the new applicants for position in our ranks, appreciate the necessity for the most thorough foundations.

So very great are all the facilities afforded by the college to-day, and so thoroughly are they understood by the people at large, that the odium of being a young practitioner is largely removed.

In fact, the young doctor of to-day is the middle-aged one of our fathers.

Mr. President, I now have the honor of presenting in person the hundred gentlemen whose names have been sent to your board and acted upon by it, so that you may, in your official capacity, confer upon them their legal right to enter upon the practice of medicine.

Hon. Flamen Ball then followed in an address which embraced the presentation of the diplomas. Mr. Ball said that the diplomas were given by a legal representative of the college as a reward for patient study and persevering effort. He stated that the prospects of the college were never brighter. At the term just closed three hundred had matriculated of whom one hundred had graduated to-day. He dilated to some extent upon the position of a physician who stands not only in the attitude of a professional adviser, but also as a confidential friend. He alluded to the fields of science that had been opened by learned professors, and admonished the graduates to reflect credit upon the profession. Mr. Ball closed with an eloquent panegyric upon the profession, which was received with applause. After music the prizes were awarded as follows:

Prof. Nichols, Materia Medica, gold medal—Dr. John M. Withrow, Middletown, O.

Prof. Forchheimer, Physiology, gold medal—Dr. Paul B. Godsman, Independence, Ind.

Prof. Ransohoff, Anatomy, gold medal—Albert L. Gray, Hillsboro, O.

Prof. Reamy, Special Thesis, case of instruments—John M. Withrow, Middletown, O.

Prof. Dawson, Best Dissection, gold medal—Allyn C. Poole, Groesbeck, O.

Prof. Dawson, Best Drawing, gold medal—Pierce C. Porter, Covington, Ky.

Prof. Seely, Ophthamology, gold medal—John M. Withrow, Middletown, O.

Prof. Whitaker, Theory and Practice, case of post-mortem instruments—Rudolph A. Walker, Covington, Ky.

Prof. Palmer, Gynæcology, case of instruments—John M. Withrow, Middletown, Ohio.

Prof. Hyndman, Medical Chemistry, gold medal—Otto W. Fennel, Cincinnati.

INTERNES OF HOSPITALS.

Good Samaritan Hospital—Clarence C. Carter, Lancaster, Ohio; Geo. D. Lummis, Middletown, Ohio, and John B. Fattic, Middletown, In[illegible]

The Faculty prize of a gold medal for the best paper in all branches was taken by John W. Withrow, of Middletown.

The following valedictory address delivered by Prof. P. S. Conner, was frequently applauded:

Public Opinion, in its origin and development, may be regarded, medically, as an infectious disease.

Having its genesis in fermentation, in structural changes in the body politic, or in the "maggots" stirring in some restless brain, it may be limited to a single social class, or to here and there a select few; be endemic in district or State; or epidemic-like sweep as a whirlwind through the entire civilized world.

As certain affections are the common lot of mankind, with little regard to time, place or condition; while others appear, rage, and pass away, making room for new types evolved under varying environments; so popular ideas and general demands may be present through the ages, with regular or irregular changes of intensity; or be the special peculiarity of a period, a country or a race.

As the disease may be an indication of errors of habits or surroundings, and more or less clearly point the way to their removal or control; so the voice of the people may proclaim the existence of evils, social, political or professional, and make plain the path of their correction.

To the philosophic mind, wide-spread disaffection and gradual reaching out after a new order of things carries conviction of the necessity of change; even though such mind may clearly recognize the blindness or the folly of particular attempts at subversion or creation.

In the community at large, and much more among physicians themselves, there has long been, in this country, a dissatisfaction with the existing state of medical education; never before so strong and so loudly voiced as at the present time. Medical men complain, medical societies resolve, medical journals censure and demand; until it would seem at first sight as if the whole purpose of the medical teaching of to-day was to furnish the least possible preparation for professional life work, and that the medical colleges of the land were but corruptors and debasers, fit only to be swept away.

Though among the criticizers, and those the sharpest, there are not a few whose souls are stirred because they are "outs" instead of "ins;" and some who are constitutionally chronic malcontents, who, present at creation, would have had some valuable improvements to suggest; still, as a class, it is the more capable men of the profession who recognize existing evils, are seeking for a way of relief, and are hoping most earnestly for better days to come.

Knowing their own histories; realizing, as certainly none better, how long the art, how difficult the judgment, how fallacious the experience; the great majority of medical teachers, earnest and honest, are in the fore-front of those who would have such as you, gentlemen, well grounded and informed with the principles that underlie the recognition and treatment of injury and disease.

Two declarations are constantly being made that of medical graduates, first, the quantity is too great, and, second, the quality is too defective.

That there are a multitude of doctors, especially in our cities and towns, no man will deny, but is not the same proportionally, and more so, true of every other profession, of every other calling?

If because of over-crowding medical men abandon practice, are not lawyers and ministers found among farmers, manufacturers, merchants, it may be clerks and traveling agents?

The struggle for existence is as wide as creation itself; and, more than all things else, sooner or later, settles the question of who and how many shall live by the same pursuit in a given locality.

But after all, is the annual increase of doctors so enormously great, when we take into consideration the size of the country, the number of its inhabitants and the professional death rate?

As was a few years ago declared by one for half a century a medical professor, there is not one regular graduate a year to each county in the United States.

Assuming that there are four thousand doctors of all sorts, regular, irregular and defective, annually sent out from the colleges; they constitute but about one-twentieth of the whole number; and five per cent. can not be very greatly in excess of the yearly mortality of a class confessedly short lived.

Even in our large cities there is maintained a tolerably steady ratio between population and physicians.

In Cincinnati, certainly, there are fewer doctors today than there were a generation ago — 1 to 600 persons as against 1 to 400 in 1851.

In instituting comparisions between the ratio in our own and foreign countries, there should always be kept in mind the fact that there are enormous differences in both the social standing and the aggregation of the populations, and, as a consequence, in the necessary number of medical attendants.

But much more important is it, to us and to society, to seriously consider the second and graver charge, that the medical colleges of the country are year by year turning out men unfit to begin professional work.

Beyond all question there are in the United States schools whose means of instruction are excessively limited, whose Faculties are teachers hardly more than in name.

The same may be said with equal truth of the schools of arts and the humanities.

It is an evil inseparable from our political organization; to be remedied, I believe, only by the correcting influence of an increased general education.

At present, certainly, there must, of necessity, be higher and lower grades of schools, furnishing instruction of corresponding character.

Fortunately for society, imperfect and deficient college training may be in after life in no small measure made up for by observation and study; and, in a certain sense, the stream may rise far higher than its source.

The better medical colleges have in the last twenty years much enlarged their courses of study, and greatly increased the opportunities furnished for the acquirement of scientific knowledge.

You, gentlemen, have had open to you practical, clinical, and laboratory courses, such as were not thought of in any college in the country when I was a student, twenty-five years ago; and what is true of the Medical College of Ohio is true of all the first-class institutions of the land.

In these matters these schools are not recreant to their high trust.

In one respect only are medical students not trained for their life work, or but to a limited extent, and that is in the personal examination and study of cases of *acute* disease and injury.

The dictates of humanity and the paramount obligations to the sick and suffering will always, I trust, prevent in America such clinical instruction as educates the student, but harms, it may be kills the patient.

The, if I may so term it, clinico-didactic system, now as heretofore the general one, is the only practicable means of teaching large numbers in a limited time.

This system, which must always hold a certain place in every course of instruction, can have substituted for it immediate and personal investigation of, for example, acute pneumonias or recent fractures, only when there has been made such decided prolongation of the lecture terms and increase in the number of undergraduate years as that no one individual patient shall be seriously inconvenienced by being made the subject of true clinical study.

And just here is, in my judgment, the great evil in our American method of instruction; the too limited duration of the undergraduate period.

The individual of acute mind, already trained to habits of study, may very fairly master the rudiments of our art and science in three years; the raw and undisciplined student can not do it, and defective preliminary education must be compensated for, if at all, only by longer time and harder work.

I am far from sharing the opinion of those who see in a liberal classical or scientific education an absolute preliminary to the study of medicine.

However advantageous such an education may be, and I would be the last to say it was not of great value, it is not a necessity, and should not be so regarded.

Indeed, for my own part, I am not in sympathy with those who require any preliminary education, as evidenced by ability to pass an entrance examination.

The study of medicine is in itself an education; and let him that will, have it.

Let the difficulty be not to get in, but to get out with the honors of the doctorate.

Gladly would I see the final examination in certain of the better schools made as severe, if you please, as that for admission to the medical staff of the army or the navy; but such it can never be, nor even an approach to it, in the great mass of our colleges.

And fortunate it is that such is the fact; for were it otherwise, the demand would far outrun the supply, and the sparsely settled districts would have to trust almost, if not altogether, wholly to that *vis medicatrix naturæ* of which we hear so much.

Neither in the practice itself, its sentimental appreciation, nor its substantial fruits is Medicine attractive to any large number of those able to do the work and devote the time required for thorough and complete undergraduate training.

As things are to-day, there are to be met with, here and there, doctors, graduates, sometimes, of most reputable schools, who are far removed from being well or even tolerably educated, either generally or professionally; but they are not so very numerous, nor do they always work evil and that continually in their communities. Inability to write well, to spell properly, to compose a grammatically correct sentence, may not be unassociated with that combination of common sense, good judgment and some medical knowledge, that together may make one a better carer for the sick than many another vastly more cultured. "Aptitude for service" is an element of character as important in civil as in military life.

Due recognition of the lamentable deficiencies of certain graduates in medicine, and some acquaintance with the measures adopted abroad to prevent the entrance into practice of those unqualified, have led many in our own country to demand that the State shall, as is said, protect itself, and through legally appointed examining boards determine without regard to college diplomas who may or may not professionally care for the sick.

Excellent as the plan may be in theory, and strong as are certain arguments advanced in its favor, State regulation, in such a form of government as ours, should be had only after most careful consideration of not alone the object to be attained, but also the means by which it is to be secured, and the dangers that may be associated therewith.

A carefully selected body of honest, intelligent and judicious examiners would unquestionably do good work for the profession as well as for the people; and for my own part, personally, I would be glad to transfer to such the irksome duties of the final examination: though I very much doubt if they would act more faithfully and more impartially than do to-day the Faculties of the better schools. But, if position on such board is to be had through personal regard of executive or judge; or, infinitely worse, is to be a reward for political service, or that thereby may be secured individual or party advancement; the result cannot but be disastrous to the welfare of the people and the honor of Medicine. That such a state of affairs may be expected to be brought about sooner or later, we have every reason for believing, when we remember the history of various politico-medical appointments, from quarantine officers to asylum superintendents, in different parts of the country. Such men as Rauch, of Chicago, and Reeves, of Wheeling, are rarely seated in official chairs.

For every reason let not *our* profession, at least, be compelled to struggle for existence in the dust and mire of the political arena. Rather let the schools continue in their present course; for self-interest, if no other reason, adding, decade after decade, to the thoroughness of their teaching and the carefulness of their training; and let there be, here and there, a favored one, so amply endowed, so well equipped, so broad in its scope, that he who would give himself the fullest possible preparation for general or special work may be furnished with every facility therefor. It is not legislation that is needed so much as interest and pride in the higher medical schools; that shall cause them to be regarded as honors to City and to State, and shall lead to such generous endowments as have lately been made in Baltimore, Philadelphia and Boston; endowments permitting on the one hand of the amplest instruction and on the other of a high grade of scholarship. Let such schools, receiving the better material, working it up in the most careful way, drawing it out year by year with progressive fineness, in due time give to the profession after most rigid testing a scientific and artistic product of the highest quality.

This, it seems to me, is what should be agitated for. It is the upper end of the chain that should be lifted, not the lower; for such movement long enough continued must of necessity carry along with it the lower links, down to the very last; that are grades of schools, which, say what we please, are, in such state of civilization as we now have, both necessary and useful. In such way is the profession to be put on a more elevated plane in fact and in regard

Let it not be forgotten that no people else on the face of the earth are so cosmopolitan as those of the United States; in no other country are medical men, as a class, so familiar with what is going on professionally everywhere; under no other form of government can and do physicians take such social rank. Because of these things, if the higher schools are aided and encouraged to do their best and broadest work, the day may not be so very far distant when the teaching-preeminence that has been successively in Italy, in Holland, in Scotland, in England, in France, in Germany, will be here in America. To hasten its coming by, as far as may be practicable, teaching more and teaching better is the duty of every one holding professorial position; to hasten its coming by recognition of the value of the schools and practical encouragement of their movements in progression, is the duty of physicians and of the people at large.

And now, gentlemen, the Medical College of Ohio sends you out to take your places on the broad field of battle. She considers you qualified for her degree; thinks you fit companions of your predecessors in the sixty-three years that have elapsed since her first sons left her halls; deems you worthy associates of the alumni of other schools. See to it that you prove yourselves deserving of the honors that she has conferred upon you. Stand up, quit yourselves like men. Remember that this is your *commencement*, the beginning only of your independent individual work of life.

However studious you may have been, however fully you may have received and securely laid away the teachings you have had; you are but on the shore of that vast ocean of knowledge whose further border is in infinity. Whether you but wet your feet in the lapping waves, or sail beyond the heretofore utmost limit of human reach, the unknown will far outstretch the known. Be modest therefore, be diligent, be hopeful. The sea will not always be smooth, nor the sky serene. Soul-wearing waiting in earlier years may precede exhausting labors in more mature life, when sleepless nights may follow anxious days. Ingratitude, or worse, may at times reward your faithfulness; unexpected or unavoidable misfortune may blight your fairest hopes. Your work may be in uncultivated districts, where your souls will yearn for companionship that you cannot have; your struggle may be with the pestilence that walketh in darkness, the destruction that wasteth at noonday, when men's hearts are failing them because of fear. But, whatever the surroundings, wherever the place, "We must ever keep working, my friends."

Let each, according to his strength, fulfil the day's duties, and, as he may, contribute his mite to the sum of human knowledge; writing, like John of Ardern, "with simplicity and with honesty."

Be servants of no man, nor swear in the words of any master. Be loyal to the truth and the right, keeping yourselves pure in life and labor; that, in the words of the Father of Medicine, it may be given you in happiness to enjoy the fruits thereof, and ever to be honored among men.

For myself, my colleagues, and the College, I bid you Farewell.

The following is a list of the graduates, the total being one hundred:

Adams, Charles F., O.
Ault, Milton F.. Ind.
Barrett, Omar H.. Ind.
Bowers H. R., Texas.
Boylan, Joseph E., O.
Brown, R. A., Ohio.
Burkert E. F., Ohio.
Caldwell, C. E., O.
Carter, C. C., Ohio.
Carter, W. W., O.
Clayland, John M.. O.
Cone Frank B.. Ohio.
Coleman, John T., O.
Crigler, Frank D., Ky.
Cunningham, W. W., Tex.
Davis, Rington N. Y.
Eskildson. R. E., N.Y.
Hiatt, Levi J., Ind.
Hiestand, H. E,, O.
Honaker C., Ky.
Hunt, John S., Ind.
Hussey, O. C., O.
Jones, John T., Mo.
Jordon. N. F., Ky.
Keever, W. S., W. Va.
King, James E., Ind.
Knisely. A. F., Ohio.
Limerick, R. E., Ky.
Longanecker, E. W., O.
Makemson, W. S., O.
Matchett, C. H., O.
Messenger, A. C.. O.
Millikan, J. H.. Ind.
Mitchel, W. J., Ind.
Newman, A. M., O.
Patterson, L. S., Pa.
Petty, Bailey B., Ky.
Postle, R. A., Ohio.
Pratt, H. F., Kas.
Pugh, C. L., Ky.
Raison, Louis W., Ky.
Rea, Charles L., Ind.
Reese, Joseph, Ohio.
Reynard, E. G., Ohio.
Roberts, George W., O.
Romans, C. D., Ohio.
Rudy, A. S., Ohio.
Ewing, U B. G., O.
Fattic John B.. Ind.
Fennel Otto W., Ohio
Fitzgerald, Frank P., O.
Flanegan, John A., O.
Godsman, Paul B., Kas.
Gould, Charles E.. Ind.
Gray, Albert L., Ohio.
Green, James H., Ind.
Gunkel Fred. C., Ky.
Guyer, Oscar K., Ind.
Haines, W. D., Ind.
Hamblin, Ira B., Ohio.
Hamilton, B. F.. Ohio.
Hawes S. A., Ohio.
Hershey Henry. Ohio.
Hetzler, W. W., Ohio.
Hibbard, F., Ohio.
Holmes, W. E., Ohio.
Huddleson, J. W., Ky.
Huston, J. C., Ind.
Jenkins, W. O., Ind.
Jones, Thomas A., O.
Junkerman. G. S., O.
Keyt, Marshall H., O.
Knapp, S. O., Ind.
Leming. John E., Ky.
Link. W. H., Ind.
Lummis, G. D., O.
Manser, W. H., W. Va.
McKim, F. E., O.
Michael Luther, Ky.
Minnich, C. S., O.
Musekamp, G. H., O.
Sidman, Wm. D., O.
Smith, C. Wm., Ohio.
Smith, C. Willis, Ind.
Smith, W. H., Vt.
Tumlin, B. F., Ga.
Tufts, C. W., Ohio.
Vincent, J. R., Pa.
Walden, Leonard, Ky.
Walker, A. R., Ky.
Ward, James Wm., O.
Wellons James W.. O.
Wilder, W. H., Ohio..
Wildman, Wm. A., Ind.
Sayrs, John H., Ohio.
Scott, B. H., Ohio.
Shallioll, Peter, Ohio.
Withrow, J. M., Ohio.
Wright James W., Ind.
Yenne, C. H., Ind.

Numberous baskets of flowers and bouquets were presented to the gentlemen, and the evening closed with an elegant lunch furnished by Keppler.

EXAMINATION QUESTIONS.

OPHTHALMOLOGY.—PROF. W. W. SEELY.

1. Name the extrinsic and intrinsic ocular muscles and the nerves that innervate them.

2. What ocular phenomena are produced by facial paralysis.

3. At what period of life does internal strabismus usually begin and what is the usual state of refraction.

4. Define how hypermetropia may be acquired.

5. How do you test pupillary reaction.

6. What sort of injury to the eye is specially liable to produce increased tension.

7. Usual period of life for iritis and the reason.

8. Diagnosis, dangers, and treatment of iritis.

9. Describe oblique or focal illumination.

10. What structures in the eye does it throw light upon.

MATERIA MEDICA.—PROFESSOR SAMUEL NICKLES.

1. Describe the physiological action and therapeutic uses of tannic acid.

2. Describe the best methods of using quinia as a tonic, antipyretic and antiperiodic.

3. Explain the *modus operandi* of iron.

4. Which mineral acid is most useful, and when is it indicated?

5. Explain the *modus operandi* of cod-liver oil.

6. What reasons have we for considering alcohol a food?

7. State the subcutaneous dose of morphia, apomorphia, atropia, strychina, and carbolic acid.

8. Enumerate the resemblances and dif-

ferences in action of chloral and chloroform.

9. How do hydragogue diuretics increase diuresis?

10. Give an account of the action and uses of salicylic acid and salicylate of sodium.

THEORY AND PRACTICE.—PROF. JAS. T. WHITTAKER.

1. Differential diagnosis of cerebro-spinal and tubercular meningitis.

2. Reasons for considering acute articular rheumatism an infectious disease.

3. Distinction of endocarditic bruit and pericarditic friction sound.

4. Physical signs of mitral regurgitation.

5. Diagnosis and treatment of empyema.

6. Treatment of asthma.

7. Determination of the prognosis of tuberculosis.

8. Diagnosis of abscess of the liver.

9. Give any three alleged causes or explanations of the phenomena of epilepsy.

10. Differential diagnosis of acute nephritis and infarction of the kidney.

OBSTETRICS.—PROF. THAD. A. REAMY.

1. A good general description of the female pelvis.

2. Name and describe the organs contained therein.

3. Physiology of conception.

4. Name the powers expelling the fetus in natural labor.

5. What conditions justify turning?

6. Causes of hemorrhage in the puerperal state with appropriate treatment.

7. Rules for use of anæsthetics in labor.

8. Prophylaxis of puerperal fever.

9. Treatment of puerperal eclampsia.

10. Proper management of the child during *the month*.

DESCRIPTIVE ANATOMY.—PROF. JOSEPH RANSOHOFF.

1. Describe, in detail, the periosteum and its functions.

2. How do nerves terminate (*a*) in muscle, (*b*) in sensory organs?

3. Describe the pharynx.

4. In what particulars do the upper and lower ends of the small intestine differ from each other?

5. Describe the chink of the glottis, and what are the functions of the individual muscles controlling it?

6. What and where are the roots of the lungs?

7. Describe the interior of the right ventricle of the heart.

8. Give the anatomical relations of the kidneys.

9. Describe the island of Reil, and give its relations.

10. In what manner do the anterior and posterior roots of the spinal nerves differ from each other?

MEDICAL CHEMISTRY.—PROF. JAMES G. HYNDMAN.

1. Define atomic weight, atomicity, compound molecule.

2. What is the average proportion of ozone in the atmosphere. Give a test for its detection.

3. How is N_2O made? What is its specific gravity?

4. What is the difference between a sulphite and a sulphate? A phosphide and a phosphate.

5. How much CO_2 in the atmosphere? How kept at this proportion?

6. Give reasons for preferring vegetable salts of potassium in solvent treatment of uric acid calculi. Give a test for potassium salts.

7. What is meant by a pressure of five atmospheres?

8. Describe two "Reduction Tests" for sugar. Upon what do these tests depend?

9. Differentiate albumen, phosphates and urates in a specimen of urine.

10. How detect an excess of chlorides in urine? Describe the Murexide Test for uric acid.

PATHOLOGICAL ANATOMY AND GENERAL PATHOLOGY.—PROF. WALKER AND PROF. KEBLER.

1. Describe a "perforating ulcer" of the stomach.

2. Give the reasons for believing that certain diseases are caused by micro-organisms.
3. Describe a myomatous tumor.
4. Give the varieties of epithelioma.
5. Describe acute yellow atrophy of the liver.
6. Definition and causes of thrombosis.
7. Given, stenosis of the mitral valve, what changes follow in the heart and other organs?
8. Causes of calcareous degeneration.
9. Collateral circulation in advanced cirrhosis of the liver.
10. What is hepatogenic and what hæmatogenic icterus?

MIAMI MEDICAL COLLEGE.

ALUMNI ASSOCIATION.

The Alumni Association held their annual reunion at the College building Thursday afternoon, March 6th, 1884, at 3 o'clock. The President, Dr. Daniel Millikin, of Hamilton, O., occupying the chair, and Dr. Wm. H. Falls, of this city, acting as Secretary. The meeting was very largely attended, the large amphitheatre of the College having every chair occupied with members—resident and from abroad.

The President, Dr. Daniel Millikin, delivered the annual address, and was very closely listened to by the large and appreciative audience. His address showed careful preparation and great research. It consisted mainly in showing the great work which has been accomplished by physicians, not only in medicine, but also in geology, zoology, chemistry, and every department of the arts and sciences, from Aristotle to the present time. In conclusion he addressed the graduating class, and welcomed them as members of the Alumni Association.

Dr. John G. Smalley, of Brookville, Ind., delivered the valedictory in behalf of the graduating class. His address was as follows:

To the President, Professors, Fellow Classmates and Visiting Alumni of Miami Medical College:

As it has almost become a matter of custom for the valedictorian to eulogize his instructors and moralize on his fellow classmates, our class wishes to deviate somewhat from that routine manner of adieu address, not because our esteem is less than preceding classes for our instructors and fellow classmates, for a truer expression never could be quoted than "Friendly actions speak louder than friendly words," but because we wish to look briefly at the origin of medical science and *why* we are "regulars."

It would almost seem impossible to the human race, at the present age of existence, to think that at one time such a thing as a medical profession was entirely unknown; but the ancients afterward learned that if an individual became sick, if a less quantity of food be taken, the poor sick creature was rendered more comfortable; and hence, here arose the diet treatment, and next they learned was that if the same amount of food be rendered more bland it was easier for digestion. Here, arose the use of soups and mild aliment as being excellent for the sick. How near does this resemble the teachings of the present day.

The foundation of medicine ought properly to be divided into three great stages.

First, the age of foundations, this being again sub-divided into four divisions, viz.: Primitive (or that of instinct); Sacred (or mystic); Philosophic and Anatomic.

The second division being subdivided into two, viz.: Greek and Arabic.

But the third great division is the age of Renovation, in which we now live. It is again divided into two stages: that of the Erudite, covering the fifteenth and sixteenth centuries, and the Reform, covering the seventeenth and eighteenth centuries. This grand division we owe primarily to Dr. Renouard, of France, and secondarily to Dr. C. G. Comegys, of this city, formerly a professor in this College.

In skipping several centuries, we have briefly come from an unknown medical profession down to the present time, in which medicine as a profession seems to be almost a divine institution—and when we look for a single moment at the grand achievments medical science has won in the past half century in obstetrics, pathology and gynecology. The latter, of which we ought properly to call the late Dr. Marion Sims, of New York, the father. We could well pause and say, never such blessings cease to flow.

Obstetrics, we can now boast to be near perfection. Pathology giving us volumes yearly, and gynecology—oh! where is there a woman in this great universe who does not, on bended knees and eyes turned toward heaven, pray for another such female surgeon as was Dr. Sims.

While I have only mentioned three branches that have made such marvelous advancements, 'tis not meant that these alone have made progress, for all the other branches have been nobly dealt with and have added much to the welfare of the human economy.

Now, let us see why we are *Regular* physicians. In the first place, to arrive at such a conclusion, we must know something as to the principles of Eclecticism and Homeopathy. To deal with them respectively, Eclecticism, of which Potamo was the founder, originated from what he thought to be the best portions of all the beliefs and superstitions then in existence. The principle then is good so far as it goes, but it doesn't go half far enough for a liberal minded progress-wisher.

The first time that enough of the primary principles could be collected to write any history of its existence was in 1831, by M. Guerin, which he read before the Royal Academy of Medicine. Now, to strike at its foundations, of what use is Eclecticism to suffering humanity. The student of Eclecticism of to-day is like that of years past, that is, committing the same old treatment, hardly being aware of modern advancements. Eclecticism is totally sterile; it lives by borrowing, having produced nothing and is only able to create doubt and uncertainty; a doctrine essentially transitory, which must disappear in the presence of the true theory as the shadows of twilight are scattered before the beams of the rising sun.

Next, let us deal with Homeopathy, of which Samuel Hahnemann was the founder. Hahnemann's superstition led him to believe that medicines introduced into the normal physiological body would give rise to certain diseased actions there. In his treating of the physiological action of carbonate of lime (or common chalk), a mild, almost inert substance, which we could take a good refreshing drink without emoliently drinking some of its particles, of which he says a sixtillionth of a grain administered in one dose will give rise to one thousand and ninety symptoms, some of which are: "In the evening, thirteen days after taking it, on going out, there is an unsteady gait." "Dizziness on walking out at the end of twenty-six days." "Sudden deafness immediately after dinner." "Itching on border of eyelids after five days." "Great heat at extremity of big toe after twenty-one days." These five symptoms are among his one thousand and ninety belonging to chalk. Now, could any medically educated individual, with any feeling of sympathy for human suffering, see such treatment practiced on a dear relative or poor street arab? I think not.

As time at present does not permit of any lengthy description of any one branch, we will enumerate a few reasons for our being "Regular" physicians.

Firstly. Our schools are confined in no limits, being free to use whatever is best adapted to each individual peculiarity.

Second. Our school is the father of pathology, a branch so indispensable to the foundation of a truly scientific medical education.

Third. All free hospitals in the United States are under our control, and why, because surgical skill is often demanded, and our schools contains the only competent surgeons.

Fourth. Our schools teach the theory of the physiological action of drugs on mammalia.

These four cardinal points, when understood, are sufficient to convince any intelligent individual of the superiority of "Regularism" over any subdivisions, such as eclecticism, homeopathy, mesmerism, spiritualism, etc., etc.

The profession of medicine at present could well be compared to that of a tree, the trunk being "regularism", the largest branches "eclecticism", and the brush being homeopathy, charmism and many other such fallacious doctrines.

We are often asked why it is that homeopathic medicines are strong enough to cure patients when they are really sick. This is easily and truthfully answered in that they use the identical same drugs that our schools have experimentally found to be efficacious. Then we are asked why do they adhere to the homeopathic title?

Because popular ideas, among some fashionable classes, think there always is some mystic drug for their peculiar disease and in that class, if the trouble is not thought to be serious, sugar pellets pet the mind, while nature corrects the disease.

Someday all fallacious title's must fall, and the true Physician, who only is endowed with the power of easing pain, and assisting nature will reign supreme.

It is high time that the Profession should quit its foolishness. The people depend, and hang their hopes upon it, and need we say love it? they do, and admire many of its members, and who is there that has not in those dark hours when some loved one lay stretched helpless and suffering with some remedial, or otherwise dread disease, and when pain was racking their dear form, blessed with their heart of hearts, that dear old family doctor who had quitted his own warm couch to come through storm and rain at midnight, to minister with medicines and soothing words, and in whose very presence there was healing, and confidence and hope.

In response to the kind welcome given us by the President of the Alumni: We with deepest gratitude, accept your most kind invitation, and proudly memorize the thoughts of us singly, being an alumnus in real, of Miami Medical College.

And now, brother classmates, we have completed our students career. We have industriously, worked long, and hard; to obtain the standard at which we have now arrived. We are now classed among the Alumni of Miami Medical College. We have quit her to us sacred walls as students, and are now to start in the battle of life, assisting suffering humanity, this being our aim.

While we have met many difficult problems in the medical classes, our evidence of having mastered them, lies in the certificate for the conferred degree, of M. D.

Our instructors have labored diligently for the advancement of their students, and their own reward of honor lies in the thoroughness of the students; of which no better proof can be given than the number of students having successfully competed in the examinations for the interneship at the City Hospital. At present five-sixths of the internes there are Miami students.

While this time should be the most pleasant to us; it is the saddest, for our class now divides, and ranges longitudinally from California, to England, and latitudinally from Cuba to Canada.

We probably will never all meet again after returning to our several homes, and this farewell means forever, and, I know of no better thoughts for us to keep in view than to be true to ourselves—true to our patients—and true before our God.

But before leaving this, I wish to thank my classmates for honoring me with the position of valedictorian. As we are "Regulars", it is our principle to treat causes, and allow effects, or symptoms, to disappear at their leisure, so in this case. I wish to thank you not for the position of valedictorian, but for the true friendly spirit that surely must have been at the base of. it, otherwise such would not be the case.

As to our Professors, we can ever, with pleasure, keep in memory their kindness toward us while in and out of lectures; and now, with kindest regards, we say farewell to our instructors, to our junior classmates, to these old scientific halls, and, separately, with ourselves.

Drs. John L. Davis, George C. Skinner, S. Brumbaugh, F. W. Langdon, and E. A. Farquhar were appointed a Committee on Nominations. They presented the following report, showing the officers elected for the ensuing year:

President—Dr. Edwin M. Nelson.

First Vice-President—Dr. F. H. Rowe, class 1873.

Second Vice-President—Dr. E. S. Ricketts, class 1877.

Third Vice-President—Dr. W. W. Hall, class 1880.

Fourth Vice-President—Dr. J. E. Brown, class 1871.

Fifth Vice-President—Dr. A. G. Sellards, class 1868.

Sixth Vice-President—Dr. George H. Goode, class 1883.

Secretary—Dr. William H. Falls.

Treasurer—Dr, George M. Allen.

Executive Committee—Drs. Walter A. Dun, J. F. Heady, Phillip Zenner.

The newly-elected President, Dr. Edwin M. Nelson, of St. Louis, is well known in the medical profession as the very able editor of the St. Louis *Courier of Medicine*, and is one of the most distinguished physicians of that city.

Graduating Exercises of the Twenty-fourth Annual Session.

The close of the twenty-fourth session and Commencement exercises of the Miami Medical College took place in Smith & Nixon's Hall on the evening of March 6th. The occasion was distinguished by a large popular attendance. The Cincinnati Orchestra enlivened it with choice selections of music.

The going forth of a graduatiug class of medical students is ever attended by circumstances shaped by human interest, and graced by social arts.

The exercises were opened with prayer by the Rev. Dr. Joyce, after which Dr. Wm. Clendenin, Dean of the Faculty, made the usual preliminary remarks, in which he noticed first the continued prosperity of the College, and the fact that the number of students registered in the various medical colleges of the country is considerably less than the preceeding year, amounting in some of the schools to a loss of twenty to twenty-five per cent.

There are always considerations other than the standing of a medical college and its facilities for teaching, which influence many students in their choice of a college.

The classes in a medical school may easily be enlarged, provided such school has no higher conception of its obligation to the profession than the publication of a large list of matriculants. But the Trustees and Faculty of the Miami Medical College, believing that the interests of both the profession and the general public will best be subserved by the *quality* rather than the *numbers* of the graduates of a medical institution, care to exercise greater diligence in excluding incompetent and improper persons from the reception of its honors than in adding to the numbers of its graduates. Each succeeding session, more attention is given to the selection of students admitted, in order to ascertain that they have had that kind of a preparatory education which is considered necessary to qualify a young man for the study of medicine.

This Faculty would prefer to be the instructors of a class of one hundred and fifty intelligent students, well fitted for their work by a good preliminary education, than to lecture to a much larger class, the majority of whom had not received a fair preliminary education, and were consequently wanting in mental discipline, and who, by previous habits and occupation, were unaccustomed to scientific study. With a deep sense of the many defects of the old system of medical teaching, the Faculty has endeavored to remedy it by a more thorough, deliberate and practical course of instruction. The term of study has been lengthened, and the college sessions, formerly only three and a half, are now five and a half months.

This was the first medical school in the West to inaugurate a college clinic, where each student could have ample opportunity for personal and deliberate examinations of sick persons, under the direction of a teacher, and while systematic instruction is not made to hold an accessary and subordinate position, clinical instruction constitutes a fundamental feature of the school. Our system of instruction includes systematic and practical instruction in microscopy, in the chemical and physiological laboratories and dissecting room. Diseases of the throat and air passages, skin diseases, diseases of the eye and ear, diseases of women and children form a part of the regular curriculum of study. In the college clinics from ten to twelve thousand persons are examined and prescribed for yearly by members of the faculty. These clinics are carried on systemically day by day, and so arranged that each student may acquaint himself with the practical duties of his profession. In addition to the clinics held in the college, daily clinics are given in the Cincinnati Hospital, the largest and best appointed hospital in the country. To all of these clinics the students of this college have access. It is, therefore, apparent that the gentlemen who are now about to receive the degree of Doctor of Medicine have already a practical medical experience. They have been taught, not only the general principles of medicine, but have been well instructed in the clinic room in the application of those principles for alleviating human suffering.

After briefly noticing the faithful, honest and legitimate methods employed by this Faculty for instructing students, the Dean passed to a consideration of medical teachers in general and of the Miami Medical College instructors in particular. Many suppose that medical teachers are mere schoolmen, who confine their instructions to the forms and theories laid down in books, but this is a great mistake, as nearly all the distinguished medical teachers of the past have been practicing physicians. The most prominent professors of this period are engaged in the active practical duties of their profession, and equally distinguished for their skill in the diagnosis and treatment of disease.

The founders of the Miami Medical College, and those who have since been connected with it as instructors, and who have aided in placing it upon such a basis as to make it equal to the best colleges in the country, require no introduction to this community. During the war, and throughout the history of our community, they were distinguished not only for their devotion to the cause of humanity in the regular pursuit of their profession, but for patriotism, for charity, for labor in the cause of education — R. D. Mussey, C. L. Avery, George Mendenhall, John F. White, Jesse P. Judkins, C. G. Comegys, John Davis, John A. Murphy, Henry E. Foote, E. Williams, B. F. Richardson, and a man justly distinguished and well known to the entire community for his true manliness, his ability and energy, Wm. H. Mussey. They gave their time, their money and their personal influence to establish hospitals for the sick poor, infirmaries, asylums and homes for the aged, the decrepid and the insane. They were instrumental in building up libraries, schools, colleges and churches. Their voices were always heard on the side of truth, justice and right, and they spoke on these points with no uncertain sound.

As a parting to the graduates the Dean quoted from the code of ethics: "Your minds ought to be imbued with the greatness of your mission, and the responsibility you habitually incur in its discharge. These obligations are the more deep and enduring because there is no tribunal other than your own consciences to adjudge penalties for carelessness and neglect." I therefore admonish you to be honest, to be truthful and to be dilligent, and above all, to strive to possess yourselves of that wisdom which has its beginning in a proper Godly fear.

The Dean then presented the graduates to the Hon. Jacob D. Cox, of the Board of Trustees, who conferred the Degree upon the following gentlemen:

Bailey, Viceroy Marion, Ohio.
Birchard, Almon Dwight, Pennsylvania.
Dannettelle, Fenelon F., Indiana.
Dorroh, John R., Kentucky.
Dorschug, Frederick P., Ohio.
Henry, James Wales, Ohio.
Henry, Rolando H., Illinois.
Jones, Benjamin F., Alabama.
Keever, Benj. W. Dudley, Ohio.
Kelly, Richmond. Oregon.
Knight, Amos Wesley, Ohio..
Latham, Edward H., Kentucky.
Wallace, Charles E., Pennsylvania.
McClellan, Benjamin R., Ohio.
Marquart, Oscar M., Ohio.
Marsh, Frederick O., Ohio.
Milholland, David M., Ohio.
Moore, Allan Jackson, Ohio.
Patton, Frederick W., Illinois.
Rogers, Everett D., Ind.
Rush, Andrew Wilson, Ohio·
Sayres, Konri Baker, Ohio.
Smolley, John G., Ind.
Stengel, Walter, Penn.
Thompson, John Albert, Ohio.
Van Zant, C. Burton, Ohio.
Fletcher, Mordecai H., Ohio.
Bibbee, George M., Ohio.

Prof. Wm. H. Taylor delivered the valedictory address as follows:

A glance at our social organization reveals the fact that the community is made up of numerous classes, each of which has some special relation to the State, and some peculiar function to perform in the preservation of the body-politic. All patriotic citizens recognize their obligation to protect their land from foreign foe; every one must look with veneration upon the *true* statesman, who, forgetful of selfish ends, devotes the ability of a life to upbuilding and strengthening his own government among the nations of the world. Less conspicuous, but no less essential to the welfare of the community, are they whose mission is the intellectual or moral elevation of the people; and how justly are they applauded by whose energy and foresight the borders of our continent are indissolubly bound together with the iron bands of a railroad, or by whose efforts a wilderness is made to blossom as the rose.

Rarely does the medical profession have opportunity to appear before an assemblage of non-professional auditors and make claim to its share in the great work of forwarding the interests or maintaining the integrity of of our land. Availing myself of this occasion I propose to present to you some thoughts and facts bearing upon "The Relation of the Medical Profession to the Community." So large a part of the physician's duty is essentially in dealing with the individual, that at first thought it may seem that he bears no other relation to the community, but, as his experience in dealing with individuals is generalized, he becomes a power in influencing the many, and as the State is paramount to the person, so the application of this knowledge for the benefit of the community is a higher aim realized; a *true* patriotism, for the strength of a nation consists primarily in the health and virtues of the people.

"Heretofore the labors of the medical profession have been directed chiefly to acquiring a knowledge of the *causes* of disease, the better to *cure* it, but it has been reserved for the present century to create a distinct department for the prevention and *extinction* of disease — State Medicine or Hygiene."

"Without obedience to the laws of health it is impossible to secure the highest culture of the citizen, physical, intellectual and moral, and perpetuate the prosperity, the freedom, the glory of the State. It has become a classical saying that 'public health is public wealth.'"

The increase of population forces the subject upon our consideration, and the blessing of civilization, with its attendant comforts and advantages, so much coveted by mankind, has its reverse side of evil, for it has an unfavorable influence upon vital force in two ways; first, the body is dominated by a more active, more excitable, more complicated brain, and secondly, there is a more animated, more stimulating social environment; consequently, though health in civilization may be more perfect, it is assuredly more difficult than health in savagery.

No longer can the consideration of questions of public health be looked upon as of interest only to a class of scientists, or as merely a work for the benevolent, but race vitality, physical vigor, and the avoidance of ascertained causes and concomitants of disease are essential to the welfare of the people, and the prosperity of the body politic, and, therefore, compel the attention of the State.

Lord Stanley declared that sanitary studies belong to the patriot no less than to the philanthropist, and Beaconsfield, shortly before his death, said, "The health of the people is the first duty of statesmen."

Not only are its relations national, but international, "for nations have long since ceased to be isolated bodies, wishing ill to all their neighbors,', and as communication by railway, by steamship and telegraph is multiplied, so is each member of the great family of nations increasingly influenced by the health or disease of another.

With what pained eagerness did we listen the other day to the reports of cholera in the confines of our remote and unfortunate neighbor, Egypt, and with what feelings of vindictiveness do we hear that American pork is excluded from European markets for hygienic reasons, and how jealous is the mercantile community of any restriction of traffic by quarantine.

"In the great struggle of nations the best win, because goodness is the associate of strength and healthfulness, and the preservation of the sanitary conditions of a people is a necessity to the maintenance of a high position among other nations.

But yet *more* intimate are the relations of this question. So close is the interdependence of the physical, the mental and the moral in man, that an improvement or a deterioration in any one of them is certain to be attended by an improvement or deterioration in the other two. If, from indifferent sanitary arrangements, or other cause, the physical be allowed to sink, the mental and moral forces must soon be weakened, and while sentiments of philanthropy are evoked by the woes of our fellow beings we cannot fail to mark, that much of the misery of mankind admitting of removal is due to untimely death and its shadow, sickness, another name for suffering and depressed vitality; and no one will deny that to promote the spiritual welfare of the people a prime necessity is to provide them with decent healthy homes and to endeavour to improve their sanitary surroundings.

Pecuniarily, this topic is fraught with great import. The power and wealth of a community depend on the capital accumulated and upon the proportion which its effective or productive inhabitants bear to those who are non-productive, and the latter element is of vastly more importance. According to Dr. Jarvis, in the United States, about one-half are sustainers, and one-half dependent, * * Such distinction between producers and dependent, is important to consider in attempting to estimate the loss to a community from preventible diseases, such estimates are based on the pecuniary value of lives considered as production or money earning instruments was capitalized investments and this value varies greatly.

Accepting either the calculation of Dr. Jarvis or Dr. Farr on this point, it can be shown that the direct pecuniary loss to this country from preventible sickness and mortatlity is certainly over $100,000,000 annually, and a recent epidemic of small pox in Phiadelphia is estimated to have entailed a loss of over $20,000,000 and about 100,000 needless deaths.

Permit me now to direct attention to some of the prominent evils which demand medical care for their mitigation or removal.

As the population increases the tendency of the human race to aggregation is intensified by the development of great commercial enterprises, and such assembling of people brings forward problems of public health of the utmost moment. The question of urban dwellings for the multitude is of pre-eminent importance, and in the modifications of nature caused by the proximity of the buildings of a city, we have a fruitful source of evil. The action of sunlight and heat, the direction of winds, the subterranean waterflow, the underground circulation of air, the immediate thermometric and hygrometric conditions, may all be changed by the erection of a house; and of the building itself an eminent writer has said: "House construction involves more, as regards the status of public health, than any other one thing in the sphere of sanitation;" and an architect has lately written: "Until the doctor can convince the people that their life is shortened and serious diseases are brought on by want of ventilation, the architects have no chance." The true function of a dwelling is to assist rather than to supersede nature; and in intelligent attention to the upbuilding of our American houses, we shall find that, by adding to their health, we shall add to the resources and happiness of their inmates. In so doing we shall purify the very fountain heads of National life, and do our share in imparting that vigor which contributes to public prosperity no less than to personal comfort.

Inseparably connected with this question of habitation is the problem of food supply, involving considerations of manufacture, preservation and transportation of perishable articles in such way that they may not be obnoxious to the charge of inducing or communicating disease; and the question of water supply for domestic purposes is even more difficult of satisfactory solution.

"Like the poor, the children ye have always with you," and in any consideration of sanitary matters their interests are a very prominent factor. From their numbers, their vital activity, and their vulnerability to anti-hygienic influences, the sickness and death-rate among them is far greater than with adults. The mortality reports of the large cities of this country show that one-half the aggregate deaths are of children under five years of age, and by no means rarely this appalling fatality is greatly exceeded, as during periods of great heat, when more than fifty per cent. have died under two years of age. That such mortality is unavoidable—a necessity—certainly none would assert, and if preventable an investigation of the causes and means of cure offers the most inviting field of study which can attract the medical philanthropist.

Conspicuous among the causes impairing infantile vigor are parental debility from poverty, overwork, hardship, and alcoholism, and especially influential as immediate causes of death are improper feeding and vitiated air in poor habitations. After the dangers of infancy have been safely passed, the most dreaded foe is the common contagious diseases, to whose prevention and possible eradication the medical profession has devoted much thought and effort. Incredible as it may appear, the public mind, without a murmur of dissatisfaction or expression of a fear, allows the presence of the most virulent and uncontrollable of these poisons, as diphtheria or scarlatina; but when the only one which can be thoroughly controlled appears, the whole community is wrought up to a degree of terror, and solemnly and emphatically demand that somebody shall do something.

The authorities demanded notification from the physicians of every case, and a yellow bill was posted on the poor man's house, but if a greenback bill was put somewhere else, no yellow bill appeared on the rich man's front. All of this agitation diverts from the true means of protection. Were the people persuaded and educated to resort to careful vaccination, little else would be required. "Careful vaccination" I say, for no little study and close observation are essential to properly perform this operation. The distrust of the protective power of vaccination grows out of the ignorant and worthless manner of proceeding. The popular idea that a "sore arm" is all that is needed, leads to most ignorant and villainous methods to secure the desired result. Sour paste has been used, and I heard during the recent alarm of a barber who applied a little croton oil in each case, and of course it "took" perfectly, and when small-pox came it also "took," and necessarily everyone subjected to such deception lost faith in vaccination. But no scientific fact is better attested than that, when this protective is properly used, the dread disease is shorn of its terrors; and I heartily second the recent assertion that "an anti-vaccination agitator is a homicide." It is not Utopian to say that the time must come when we shall demand the extinction of these diseases, and their occurrence shall be a reflection on our intelligence and sanitary cleanliness.

"In the public school system of the United States are centered the greatest trusts and the brightest hopes for the future of the republic, from it are to come the leaders of all phases of public life, our stateman, philosophers patriots, above all in importance, the *mothers* of the people. Invested with such a high and mighty alliance of interests, the school demands the especial care of the sanitarian for the nurture and growth of a healthly race of men and women who shall lead the world in civilization," and to attain this end more careful thought must be given to the relation of mental and physical demand upon imperfectly developed subjects, (as all school children are); more attention must be given to *individual* capacity, and to the ultimate object of education, the ability to maintain ones self in an allotted sphere of life. The method of study commonly pursued is faulty, "learning by heart is not understanding, cramming is not knowing". The principal of the Philadelphia Normal School has recently said of the effects upon the children: "Their weak physical nature is not able to bear the strain of the overtasked mental powers, they bud and blossom under a hot house culture, but like hot house flowers never attain a vigorous development."

The subjects of recreation and discipline demand such elaboration as shall make them minister to the advancement and upbuilding of the child's physical and moral character, instead of depressing them, as is now done by depriving a child of its relaxation and food and giving extra lessons as penalties for deficiencies.

The testimony of specialists and the statistics of our census reports clearly show a constant increase of insanity in this country. This increase is largely due to the *intense* life of our population. We see more, think more and worry more in ten years than our fathers did in a lifetime, and this strain of intensified life falls upon the brain and nervous system. Maudsley recently said: "The struggle for existence which goes on in the heart of an old civilization, the worry, the friction, the conflict of desires, produces as an inevitable result a large amount of insanity." Any effort to impress the desirability of averting such evil would be superfluous.

In immediate connexion with the evils of insanity comes the vice—may I not say *crime* of suicide, so painfully on the increase in our community; and, if possible, to aggravate the intrinsic horror, is its frequency among the young, those in whom the buoyancy of hope and the zeal of youth ought to carry above the disappointments necessarily incident to life, and while many cases may be attributed to the influences inducing insanity, one powerfully acting cause has much to do with the resort to it by the young. "The character of much of the *literature* of the present day is calculated to develop the passions and emotions to a much greater degree than the other powers, and thus, with feeble intellectual training and a weak will, many are apt to become victims to morbid trains of thought and feeling which lead to mental disorders, or breach of moral law, or some sudden terminatian of life in consonance with the books read." Pre-eminently a violation of moral law as this crime seems to be, yet, securing to his young patients a sound mind in a sound body, "a well-balanced and vigorous constitution, is the means by which the physician may do much to relieve civilization of this most unnatural and abhorrent evil."

Of the fell destruction of life and health wrought by the Pandora's box of physical ill—intemperance—unhappily, you have so many demonstrations that I need say nothing, but one phase of its malign powers needs especial mention, the *inheritance* of evil it entails. "The offspring of the inebriate to the third and fourth generation suffer for the vices of their parents, they are either dipsomaniacs, epileptics, idiots, possessed of inordinately vicious propensities or totally insane. That the iniquities of the fathers are visited on the children, that the fathers have eaten sour grapes and the children's teeth are set on edge, are truths that no Scripture is needed to teach. In other words, he who sins through physical excess does not do half the harm to himself that he does to the inheritors of his blood."

But time would fail me to enumerate all the phases of life in the community wherein the intelligent supervision and influence of the medical man is demanded in the interests of the public welfare. The inspection of mines; the examination of immigrants, to prevent dissemination of disease; the study of food adulterations; the study of color blindness among those to whom we intrust our lives in travelling; problems in sanitary engineering; the development of harmless in lieu of injurious processes of manufacture, and scores of questions yet unanswered as to the causation and prevention of diseases and epidemics. These and many other topics are the especial domain for the exercise of the professional knowledge of the physician, and with just pride I can say "that to these demands the members of our profession are fully alive and willingly assent, and, though their pecuniary gains are won by their efforts to cure disease, it is their constant and unselfish aim to trace out and stamp out its sources, and it is their desire and practice to take an active part in every movement which has for its object the improvement of the sanitary condition of the people."

Gentlemen of the Graduating Class: My colleagues of the Faculty have commissioned me to express their benediction to you. I trust it has not been reserved for this occasion to show that they are your well-wishers, but allow me to assure you that we sincerely desire for you whatever may add to your usefulness or happiness; heretofore you have occupied the position of dependence, being taught by others, but from this evening your relation to the community is changed; as you have been decorated with the honors, you are also charged with the responsibilities of the physician, and henceforth the two are inseperable.

In the harmonies of nature there are a multiplicity of parts, each contributing a share towards the perfect whole, and none, however obscure, can be omitted without marring the symmetry and beauty of the plan. So too in the great scheme of human advancement, each individual has a necessary work to perform, and each of you has an obligation which no other can fulfill. You have chosen the medical profession as the channel through which to discharge this obligation. If you so pursue it as honest interpreters of nature, and reverent worshippers of Him who is above nature, you will make it a sacred ministry, not only for physical knowledge, but for the service of God and man."

The Faculty prize of $100 gold was won by Dr. Thompson, of the graduating class.

The successful candidates for interne at the Cincinnati Hospital competitive examination were J. Benjamin Mayer, John C. Oliver and Henry W. Rover. There were six candidates, the above named gentlemen were graduates of the Miami Medical College.

The exercises closed with a supper at the Burnet House, given by the Faculty, in honor of the Alumni of 1883-4.

EXAMINATION QUESTIONS.

Examinations lasting from February 28, to March 4, inclusive.

PRINCIPLES AND PRACTICE OF SURGERY.—
PROF. T. H. KEARNEY.

1. Where are leucocytes found,—under what circumstanues are they most conspicuous and what changes of development and degeneration are they liable to?

2. How does cold act as a therapeutic agent in the treatment of inflammation?

3. Mention the different measures available for the arrest of hemorrhage.

4. In what way do wounds prove fatal?

5. Give the treatment of hydrophobia.

6. Under what circumstances or for what object might trephining of the skull be practiced?

7. Give the symptoms and signs of strangulated hernia.

8. Mention the conditions that might require the performance of brochotomy.

9. Give the signs and symptoms of hip-joint disease and state the leading indications in the treatment of the case.

10. State the comparative advantages of an amputation of the extremities by the circular or flap method.

THEORY AND PRACTICE OF MEDICINE.—PROF. J. C. MACKENZIE.

1. Give the pathology of fever.

2. Give the cause and morbid anatomy of cerebral softening.

3. Give the differential diagnosis of epilepsy.

4. Describe the symptoms and treatment of spasmodic asthma.

5. What is the differential diagnosis of croupous pneumonia?

6. State the cause and pathology of cardiac hypertrophy.

7. What are the symptoms and treatment of cholera morbus?

8. Give the differential diagnosis of hepatic abscess.

9. Describe the morbid anatomy of typhoid fever.

10. What are the symptoms and treatment of facial paralysis.

ANATOMY.—PROF. WM. CLENDENIN.

1. Describe the spinal column.

2. Name the cranial nerves in their order.

3. Name the muscles animated by the hypoglossal nerve.

4. Name the veins which carry the blood from the hand to the heart.

5. What muscles or their tendons are in relation with the shoulder joint?

6. Names the serous membranes.

7. Describe the first branches of the tracheal tube and the tissues entering into their formation.

8. Describe Scarpa's triangle.

9. Describe the inguinal canal.

10. What is the usual relation and position of the fragments in Colles' fracture and what muscles produce the deformity?

GENITO-URINARY DISEASES, FRACTURES AND DISLOCATIONS.—PROF. N. P. DANDRIDGE.

1. Give the varieties, symptoms and diagnosis of dislocations of the elbow-joint.

2. Give the varieties, symptoms and diagnosis of dislocations of the shoulder-joint.

3. Mention the complications of gonorrhœa.

4. Give the treatment of gonorrhœa in the acute stage—with prescriptions.

5. Give the pathology and treatment of extravasation of urine.

6. Give the symptoms and treatment of fracture of the clavicle.

7. Give the symptoms and diagnosis of stricture of the urethra.

8. Give the symptoms and diagnosis of hypertrophy of the prostate gland.

9. Describe fractures of the shaft of the femur.

10. Give the diagnosis of chancre.

OBSTETRICS.—PROF. W. H. TAYLOR.

1. Give the differential diagnosis of pregnancy at the seventh month.

2. Give the treatment of abortion in the third month.

3. Give the mechanism of delivery in R. O. P. positions.

4. Give the mechanism of delivery in face cases.

5. What is the treatment of breech cases?

6. Give the varieties and treatment of hemorrhage before birth at full time.

7. What are the indications for the use of the forceps?

8. What is the treatment for a still-born child?

9. Give the symptoms and treatment of puerperal eclampsia.

10. Give the symptoms and treatment of puerperal fever.

MATERIA MEDICA AND THERAPEUTICS.—PROF. W. B. DAVIS.

1. Define (*a*) Meter, (*b*) Liter, (*c*) Gramme and give their equivalents in apothecaries' weights and measures.

2. Give table of metric weights and measures.

3. What is meant by "Abstracta"?

4. In what does the opium of the Pharmacopœia of 1880 differ from that of 1870?

5. What are the symptoms of and treatment for opium poisoning?

6. What are the symptoms of and treatment for arsenical poisoning?

7. What is the chief indication for the use of hydrate of chloral, (*a*) what is its dose, (*b*) and how does it compare with opium in its action?

8. Correct the following prescriptions:

℞. Hydrargyrum Bichlorid. gr. iv.
Tinct. Cardamon co. aa
Syrup Sarsaparilla co. ℥i.
M. Sig. One teaspoonful 3 times a day.

℞. Morphiæ Sulphas. gr. x.
Aq. Menth. Pip. ℥ ss.
Syrup Simplex. ℥ iss.
M. Sig. One tablespoonful every hour.

9. Mention the doses of atropiæ sulphas. (*a*) acidum arseniosum, (*b*) chloralis hydras, (*c*) strychniæ sulphas, (*d*) morphinæ sulphas, (*e*) tinct. opii, (*f*) tinct. digitalis, (*g*).

10. In what way does chloroform produce death? (*a*) In what way does ether produce death? (*b*) Which is the more dangerous agent? (*c*)

PHYSIOLOGY.—PROF. JOS. EICHBERG.

1. What are the characteristics of the non-nitrogenous organic ingredients of the body? Name the most important members of this group.

2. Describe the mechanism of deglutition.

3. Give the minute anatomy of the small intestine.

4. What conditions are necessary for absorption and how is the process modified? Illustrate by examples.

5. Describe the heart and its action.

6. What is the object of respiration and how is it accomplished?

7. Describe the minute anatomy of the kidney.

8. What is a nerve and how is its function determined?

9. What are the functions of the medulla oblongata?

10. Describe the changes taking place in nutrition.

OPHTHALMOLOGY. — PROF. E. WILLIAMS.

1. Give the symptoms and treatment of keratitis.

2. Give symptoms, diagnosis and treatment of iritis.

3. Give differential diagnosis between cataract and opacities of the cornea.

4. Give the symptoms of cataract and indications for the cataract operation.

5. Differential diagnosis between glaucoma and cataract.

6. What are the diseases called ophthalmoscopic and what are the conditions necessary for the satisfactory use of the eye mirror.

7. Give the causes and symptoms of granulated lids and indications in the treatment.

8. Give the eye symptoms that occur in Bright's disease and give the cause.

9. What are the most prominent symptoms in disease of internal ear?

10. Give the treatment of foreign bodies in the external ear.

GYNECOLOGY.—PROF. B. STANTON.

1. Give the anatomy of the different portions of the mucous membrane of the uterus.

2. Give the symptoms of vaginismus.

3. Name the varieties of amenorrhœa and the constitutional and local conditions causing them.

4. Differential diagnosis of peri-uterine cellulitis and pelvic peritonitis.

5. Give the palliative treatment of menorrhagia.

6. What are the spinal and muscular changes observed in spinal paralysis of infants?

7. Give the time of the appearance of the eruption in each of the examthematous diseases.

8. Give local and constitutional treatment of diphtheria.

CHEMISTRY.—PROF. W. L. DUDLEY.

1. What is an atom? What is a molecule?
2. Describe the properties of oxygen.
3. Give symbol for arsenic and name antidote.
4. Name and describe the properties of the compound produced by burning sulphur in the air.
5. Give chemical antidotes for sulphuric, nitric and hydrochloric acids.
6. Describe the properties of potassium.
7. Give the chemical differences between cast iron, wrought iron and steel.
8. What is lunar caustic?
9. Give a test for albumen in the urine?
10. Give two tests for sugar in the urine?

OHIO COLLEGE OF DENTAL SURGERY.

The thirty-eighth annual commencement of the Ohio College of Dental Surgery, took place at College Hall, Cincinnati, Tuesday Evening, March 4th, 1884, when the following gentlemen took their degrees as Doctors of Dental Surgery:

B. E. Burger, Mich.
Wm. L. Campbell, Ill.
H. G. Chase, Ind.
Wm. N. Dorward, Ill.
G. B. Dillon, Ill
Theo Erfort, Ill.
E. E. Holloway, Ohio.
John W. Huston, Pa.
O. F. Lambertson, Neb.
A. H. Morey, Ohio
Jesse Magee, Ind.
J. C. McCormick, Ohio
H. N. Renner, Ohio.
Carl H. Seeger, Wis.
Oscar H. Simpson, Mo.
Frank H. Smith, Pa.
B. W. Shotwell, Ohio.
Edgar H. Wright, Pa.
F. W. Williams, Col.
G. W. Williams, Ky.
W. J. Zinn, Ky.

A TOOTHACHE REMEDY. —Melt white wax or spermaceti, two parts, and when melted add carbolic acid crystals, two parts; stir well till dissolved. While still liquid, immerse thin layers of carbolized absorbent cotton-wool, and allow them to dry. When required for use a small piece may be snipped off and slightly warmed, when it can be inserted into the hollow of the tooth, where it will solidify. The ease produced by this simple method is really very great.—*British Medical Journal.*

Selections.

MEDICINE.

JOHNSON ON NERVE-SUTURE AND NERVE-TRANSPLANTATION. — (*Nordiskt Medicinskt Arkiv.*, Band xiv., No. 27, p. 1.)—This is a contribution to the study of nerve-suture, both from clinical and experimental observation. The fifty-two cases collected by the author from various sources, and arranged in an admirable table, speak very forcibly of the benefit usually derived from the suture of divided nerves. M. Johnson has himself conducted a large number of experiments in the laboratory of the School of Medicine at Stockholm, both on nerve-suture and nerve-transplantation, his observation being chiefly directed to a knowledge of the time when conductivity was re-established after the operation. This varied in different animals, being found on the fortieth day in rabbits, on the thirty-first in dogs, and the twenty-fifth in fowls. It was not, however, until the sixtieth day that conductivity was restored after simple division of the sciatic in rabbits, and when no suture was applied. This was tested in each instance by a weak faradic current, or by some mechanical irritation, applied above the cicatrix. Microscopical examinations, moreover, showed a like difference in point of time, nerve-fibres being in rabbits clearly traceable through the cicatrix on the fortieth day after suture, on the sixtieth day only after simple section. The fibres in the latter case seemed rather better developed than in the former. Regeneration took place with greater speed in dogs and fowls. M. Johnson points out that nerve-suture is free from danger, neither trismus nor tetanus having followed it in any case; and he strongly recommends the practice, there being no question that restoration of function is thereby accelerated. It is less painful, and less likely to set up trophic disturbance, if the suture is indirect, than if it is passed through the nerve-trunk itself. In three cases, where pieces of the sciatic had been resected in fowls, he endeavored to transplant portions of nerve, taken in two instances from the sciatics of other fowls, and in one instance from the sciatic of a rabbit. The animals were killed on the twenty-eighth, twenty-fourth, and twenty-third days respectively; but, although the grafts were in each case firmly united, conductivity was not the least established, and, as might indeed have been expected, microscopy revealed almost complete degeneration of nerve-structure in the engrafted fragments, in marked contrast to the condition of the nerve itself. In addition to the large number of collected cases, the paper is enriched with an account of other experimental observations, and with a full bibliography on the whole subject of nerve-injury and nerve-suture.—*Brain.*

PERIPHERAL NERVE LESIONS OF ATAXIA AND ON PERIPHERAL NERVO-TABES. (*Comptes Rendus.*)—This is a further and most important contribution, by an observer (M. Déjérine) whose researches in the same direction are already widely known, towards a fuller appreciation of the changes met with in the peripheral nerves in the course of tabes dorsalis. Struck by the fact that although defects in sensation had been in several cases very various, the cord lesion was found in each to be the same, the author was led to make more careful examination of the cutaneous nerves, and the paper before us is devoted to an extended record of these two cases with complete clinical history and post-mortem examination. Both were well-marked instances of the disease, with ataxy, abolition of tendon reflexes, crises, and lightning pains, and in addition thereto were even definite areas of anesthesia and analgesia of the trunk and limbs. The usual central changes were found, and microscopical examination of the cutaneous nerves led further to the discovery of grave alterations therein in the regions of impaired sensation. Thus in the first case we read that the nerve trunks presented exactly those appearances which are ordinarily seen some months after section, very few indeed of the nerve fibres having the normal physiological qualities. In the second case, that of a woman aged 55 who had pronounced anesthesia of the legs, the cutaneous nerves showed extensive degeneration indicative of an essential parenchymatous neuritis. The anterior roots were perfectly healthy, but the posterior roots between their ganglia and the cord were markedly altered. Below the ganglia, however, that is, between them and the point of coalescence of the anterior and posterior elements of the mixed nerve, no such changes were to be found. And the ganglia themselves were also healthy, an observation on which M. Déjérine lays stress as an indication that the peripheral changes of the nerves were not the result of any morbid condition of their trophic centres. The author enters into a full discussion upon the nature of these peripheral lesions, combating the view that they are in any way allied to the changes seen in the optic nerves, and coming rather to the conclusion that they are the result of a true peripheral neuritis, starting and developing like the medullary lesions quite independently, and showing no connection therewith, either as cause or effect. Peripheral lesions are daily becoming more known, and although experimentally speaking true Wallerian degeneration has an existence beyond all dispute, it is none the less true that the cutaneous nerves may show serious degeneration without any central change, the known examples thereof becoming rapidly more numerous as observation is more frequently directed to their examination. In the present state of our knowledge it is impossible to speak with any degree of certainty as to the mode of origin of peripheral neuritis, or as to the precise influence it has in giving rise to some of the symptoms of tabes dorsalis, the retardation of, for instance, sensory impressions, the incoördination, etc., but there can be little doubt that it does play an important part in the disturbances of sensation which are so common, though so variable, in this disease. And confirming and strengthening these conclusions are the facts recorded in a later and most interesting communication from M. Déjérine on two cases of peripheral nervo-tabes, in which there were many of the symptoms of locomotor ataxy (*La France Médicale*, Oct. 30, 1883), pains, incoördination, abolition of knee-jerk, anesthesia, analgesia, and retardation of perceptions, where post-mortem no central lesions whatever could be found, the cutaneous nerves alone showing disease, having in fact undergone extreme degenerative changes, the result of peripheral neuritis. These cases are now only briefly recorded, for M. Déjérine intends to bring them forward in greater detail in a work on which he is at present engaged, and which will be looked forward to with much interest. He has found nothing like them in medical literature, and he places them on record with the object of showing how in some cases locomotor ataxy may exist independently of lesion in the spinal cord, and of suggesting for them the name, "Nervo-tabes périphérique," in contradistinction to that of "Tabes médullaire."—*The Practitioner.*

The Course of the Pupil-Constricting Nerve-Fibres in the Brain. — The majority of modern physiologists admit that the center for the reflex contraction of the pupil under the influence of light is situated in the corpora bigemina in birds and lower vertebrates, and in the region adjacent to the corpora quadrigemina in the higher mammals, including man. It is taught further, that the optic nerve, through the mediation of this center, is brought into connection with both oculo-motor nerves; in consequence of which a ray of light falling on one of the eyes, produces, not only constriction of the corresponding pupil, but contraction of the pupil of the opposite eye. To verify and elucidate this subject, Dr. V. M. Bechtereff (*Vestnik Klin. ee Sudcb. Nevropath.*, 1883, Vol. i., 89—114) undertook a series of experiments on dogs and birds, and came to results summed up by him as follows:

1. There exist no reflex nerve fibres contracting the pupil, or in their central endings within the corpora geniculata and quadrigemina in the higher animals, and within the corpora bigemina in birds.

2. The reflex pupil contracting fibres starting from the retina and following the course of the optic nerve, enter behind the chiasma directly into the gray matter surrounding the cavity of the third ventricle, and then they run to the nuclei of the oculo-motor nerve, whence they, together with the stem of the latter, return to the periphery.

3. They remain uncrossed in their whole passage within the central gray matter.

4. There exists for each eye a separate and independent arc passing through the optic nerve in the corresponding half of the gray matter, and through the necleus and stem of the oculo-motor nerves of the same side.

5. There exists a connection between both reflex arcs, by means of which a reflex is transmitted from one eye to the pupil of the other. This connection is established, probably with the help of the commissural fibres, binding together both nuclei of the oculo-motor pair.

6. The centres of reflex contraction of the pupil are not situated in the region of the floor of the third ventricle, as Hensen and Volkckers think, nor behind the corpora quadrigemina, as Adamuk supposes; most probably they are localised in the nuclei of the oculo-motor nerve.

7. There exist in the region of the floor of the third ventricle no centres which would serve for contracting the ocular muscles in the sense of Hensen and Volckers.

8. The changes in position of the eyes, which occur on stimulation or injury of the region of the floor of the third ventricle simultaneously with general motor disturbances of the (as disturbance of the equilibrium of the body and forced movements), are, in their character, closely similar to the changes in the position of the eyes, occurring after destruction of the semicircular canals, and olivary bodies of the medulla oblongata; all that they prove is, that the above-named region possesses an influence on the whole motor sphere of the animal, including the eyeballs.

9. The centres for the voluntary movements of the eyeballs are situated in the region of the nuclei of the oculo-motor nerves, since only the destruction of these nuclei or of the rootlets originating in them is following by permanent alterations in the position of the eyes.

10. The existence of an accommodation-centre situated in the floor of the third ventricle, and separate from the nuclei of the oculo-motor nerves, cannot be regarded as proved.

11. The dilatator effect of stimulation by pain on the pupil is not transmitted through the fibres of the sympathetic nerve; painful stimuli act independently, inhibiting the light-reflex of the pupil.

12. The so-called 'reflex immobility of the pupils' ('reflectorische Pupillenstarre') is dependent most likely upon the pathological processes interrupting the arc of light-reflex on the way from the optic chiasma to the nucleus of the oculo-motor nerve.—*London Medical Record.*

SURGERY.

Panaritium.—By Theodor Billroth, in the *Medical Press.*

Panaritium is the unfortunate designation of an acute inflammation of the finger that may attack as well the first as the second or third phalanx, and that has its seat in the subcutaneous cellular tissue, whence the name *panaritium subcutaceum*, or in the sheath of the tendons (*panaritium tendinosum*), or, lastly, in the bone (*panaritium ostale*). The disease may arise in consequence of crushing, or wounds, or most frequently from infection; it usually begins with pain, from the degree of severity of which a conclusion may be drawn as to the seat of the inflammation, for in those inflammations that have their origin in the bone the pains are so intense that the sufferers, as a rule, are disturbed in their rest. The swelling in the case of *panaritium ostale* is so slight that it bears no proportion to the agony endured. Such intense pain is produced by the retention of the pus beneath the periosteum. When it raises this up and escapes into the cellular tissue, the pain gradually diminishes. From the commencement of the affection until spontaneous rupture externally takes place, usually from twelve to fourteen days elapse; early incision is therefore a great relief to the patient. Incisions can be made even when the pain is most intense, the patient being narcosed, but the incision must, of course, reach down to be bone. The ostitis of the third phalanx generally ends in either total or partial necrosis of the bone. Three or four weeks elapse before the bone is separated from its surroundings—from the tendons, the articular ligaments, or, in the case of partial necrosis, from the still living bone. During this period new bone is already developed by the raised up periosteum, and even if the sequestrum capsule is not completely tubular, in the course of time the development of the new bone may still be considerable. If an incision has been made, examination with the probe must be resorted to from time to time—about once a week—to ascertain how much of the surface of the bone is free, and if found to be fairly freed from its surroundings, it should be seized with a strong pair of forceps and quickly removed. The wound will now close, but at the same time the formation of new bone will be limited, and in consequence of contraction, to a certain extent only a rudimentary phalanx may be developed.

The finger will, of course, be always somewhat deformed, it generally becomes slightly clubbed. The incision is usually made by the side of a tendon; the tendon may already be necrosed, but it is not always so, and consequently it would not be proper to aid the occurrence of necrosis by incision. Spontaneous bursting most frequently takes place around the tip of the finger; there are cases, however, in which it takes place under the nail, or at the root of the nail. In such cases the pain is always intense as the nail is only raised up gradually, and the process of elevation is extremely painful. In cases in which the matrix is affected in the process of perforation, the nail becomes necrosed. As far as the nail looks red, it has life in it, just like hair that remains in the cutis; when matter is collected under the nail it no longer looks red and translucent, but becomes dull, milky coloured, and, later on, it becomes greyish black, a sign that the nail is already dead. Death of the matrix however, is not always associated with death of the nail; this may occur, but the death of the nail-bed is not a necessary result of the process, the nail-bed may remain, and the nail may be formed anew. One thing remains, the inflamed nail-bed never retains so smooth a form as before; it becomes uneven, knotty, and in consequence the nail is never developed with such beautiful smoothness, it remains uneven, and of a dull milky colour. In the course of years this condition may improve a little, but it never becomes good. Various attempts have been made to restrict this uneven growth of the nail, by even compression, or by scraping, but the results are only transient, as the cause of the irregular growth is not removed, the matrix still remains uneven and lumpy. When the pus is originally formed in the subcutaneous cellular tissue, an opening soon appears in the skin, where, first, a vesicle forms, from the cuticle becoming raised up from the rete malpighii. The panaritium subcutaneum has already found its way through by the fifth day, and by the twelfth, the wound is generally healed. There are also cases of panaritium in which no pus is formed, but in which complete spontaneous gangrene of the tissues takes place. How is this gangrene to be explained? In inflammation, gangrene may arise through two causes:—1. The inflammatory process may from the first be so intense that the structure immediately dies; and 2. Clotting of the blood may take place and gangrene, in consequence of the arrest of the circulation. This last possibility we cannot accept in the case of panaritium, for how could such a disturbance of circulation as leads to gangrene take place so suddenly. I have already mentioned to you that the circulation in the fingers is so active that a finger may be completely cut off, except a thin bridge of skin, and the separated part may grow on again, the circulation being carried on through the bridge of skin only.

I think gangrene would take place here from the first cause. The acute inflammation is a chemical process in the tissues which is associated with dilatation of the vessels with consequent exudation of serum, with increase of number of cells in the connective and fatty tissues, and with extravasation of white blood corpuscles, which come to light as pus. The most essential part of the affair, however, is the chemical process which changes in a manner not yet understood the inter cellular substance and the vascular tissues. There are naturally different degrees, and these degrees are manifested in such a way that the inflammatory change, and the disturbance of nutrition are small in one case whilst in another they are extreme—indeed, the peculiar disturbance of nutrition may be so intense that the vitality of the tissues ceases. This cessation of vitality is principally of importance as regards the vascular tissues, for when once the walls of a vessel are dead—as held by Brucke—clotting of the blood readily takes place. At a temperature of 1 C. (33·9 F.) no freezing takes place, and the blood as far as it alone is concerned, may still circulate, but at this temperature the tissues of the vessels die, and clotting then takes place in consequence of their death. The like is the case in various other processes—the first in order in the death of the tissues, and the stoppage of the circulation is secondary. When gangrene takes place through the action of liquid caustic alkalies, we must look upon this in the same way as being the result of the destruction of the tissues. The conditions are similar in the case of certain animal poisons, particularly the poison of serpents, for we cannot suppose that such a disturbance of circulation is set up that gangrene follows by the mechanical injury from the teeth; it is probable that the poison itself acts chemically in such a way that it kills the tissue, and that, as a consequence of the death of these, stagnation of the blood supervenes.

THE ETIOLOGY OF CANCER.—M. Van den Corput has recently communicated his views on this subject to the Brussels Academy of Medicine (*Rev. de Thérap.*, Jan. 15, 1884). He states that cancer is very rare in hot countries, where the people eat little or no meat. From this fact he draws the conclusion that an excess of meat and of chloride of sodium might be the cause of the cancerous diathesis. He thinks that his opinion is supported by the fact that deficiency of nitrogen in the urine, and emaciation, are found combined in cancerous patients, which indicates a deviation of the nitrogenous food from its normal channel. M. Van den Corput recommends vegetarianism as a prophylactic measure against cancer.—*London Medical Record.*

THE TREATMENT OF PHAGEDENIC CHANCRE BY PYROGALLIC ACID.—For ordinary cases, Vidal (*Bull. de Méd.. Gen.*) uses an ointment composed of pyrogallic acid 40 grammes, vaseline 120 gr., starch 40 gr. When the ulcer has a very irregular surface and undermined edges, the best plan is to use a powder (pyrogallic acid 20 grammes, starch 80 gr.), which can be blown upon the part twice daily by means of a small pair of bellows.

SANTONINE AS A REMEDY FOR GLEET.—Dr. Anderson, in the *Lancet*, states that, in treating a patient for lumbrici, he not only killed the worms, but cured a gleet which had existed for some time in spite of various remedies. The formula recommended is: Santonine, milk-sugar, of each 5 grains: to be taken twice a day fasting, in milk.

MISCELLANY.

A CASE OF MISTAKEN SEX.—By Wm. P. McGuire, M.D., *in the Medical News.*

A. B., thirty-five years of age and in good circumstances in life, consulted me on January 12, 1884, in order to have the sex to which she belonged determined. She was to all outside appearances a fairly formed woman about five feet four inches in height, with long hair curling down her back. Her voice and features were effeminate, and her demeanor was modest. From birth her dress had been that of a woman. All of her associations had been with women, and her business in life that usually followed by that sex. There was no hair upon her face.

I found upon examination that the conformation of her thorax was similar to that of a woman, and that her breasts were developed similarly to those of a young girl. The nipple was erectile. Her arms, hands, and lower, limbs were like those of a man. There was a small penis in the natural position about three-quarters of an inch in length, with a well-formed glans and prepuce. It was capable of erection, but had in the glans no aperture. Following from the base of the penis backwards was a sulcus about one-half an inch in depth and two and a half inches in length. Lying upon each side of this sulcus, and each enclosed in separate scrotums, were two well-formed and developed testicles, each attached to a moderate sized spermatic cord, the whole conformation resembling the vulva of the female. There was no opening in this sulcus, but just at its posterior termination was an opening one-quarter of an inch in diameter, which was the external opening of the urethra, extending backwards and upwards into the bladder. No prostate gland was found. She stated that all of her proclivities and desires had been masculine, and admitted that occasionally in her sleep she has pleasurable sensations followed by an ejaculation of a white fluid from the opening of the urethra, which was, of course, an ejaculation of semen. There was no trouble in determining her sex. She was advised to change her dress to that of a man, and to attempt to have by a plastic operation a new urethra made from its termination in the perineum, along the sulcus to the glans penis, in order to effect more convenient urination, as she is now obliged to do so in the sitting posture.

CINCHONA CULTIVATION IN JAVA.—It is stated in a recently issued Dutch Government report that private exports of cinchona bark, although considerably larger during 1882 than in the preceding year, only amounted to 181,354 Amsterdam pounds, but as numerous cinchona gardens commenced some five or six years ago must soon begin to yield, this article may shortly be expected to take a prominent position in the list of exports from Java. Various fresh concessions of land in the high districts of East Java have lately been granted for the cultivation of cinchona, and working capital has been readily forthcoming, showing general confidence in the future of this culture.

The Government cinchona crop is steadily increasing year by year, as the plantations are enlarged. This year's crop to the 31st of December amounted to 230,000 Amsterdam pounds, as against 165,000 Amsterdam pounds in 1881, and 100,000 Amsterdam pounds in 1880; but this figure does not represent the whole crop, the remainder of which will be gathered during the commencement of 1883.

The 1881 crop netted in Holland 218,440 fl. 75 c., or about 1 fl. 32 c. per Amsterdam pound. Experiments were made during the year with a view to ascertain what percentage of alkaloid was contained in the bark of young *Ledgeriana* trees, grown from the seed of the parent tree, from which it would appear that the bark of four years old, when bearing the true type of the mother stem, contains from 9 to 11.75 per cent. quinine, considerably more than the older parent trees.

The following figures show the number of trees in the Government nurseries and plantations at the end of 1881 and 1882:

Young trees in the nurseries—	1882.	1881.
Ledgeriana	827,700	515 000
Succirubra	198,300	199,300
Officinalis	186,390	22,300
Lancifolia	——	——
	1,205,800	736,600
Trees in the plantations—		
Ledgeriana	694,900	620,680
Calisaya and Hasskarliana	445 500	530,000
Succirubra and Caloptera	474,500	596,600
Officinalis	475,500	458,100
Lancifolia	9,000	12,000
Micrantha	——	——
	2,099,400	2,207,48
Total number of trees	3,305,200	2,944,080

—*The Quinologist.*

ÆSTHETIC CATHETERISM.—One of our exchanges records a case of what it calls "æsthetic catheterism," where a young woman introduced the stem of a small lily into her urethra; it passed beyond the reach of her fingers and had to be removed by instruments.

VETERINARY MEDICINE AND SURGERY in Diseases and Injuries of the Horse. Compiled from standard and modern authorities, and edited by E. C. Kirby. Illustrated by four colored plates and one hundred and sixty-eight wood engravings. Wood's Library of Standard Medical Authors for 1883. New York: William Wood & Co, 1883.

Original Articles.

THE SERIOUS AND LUDICROUS IN MEDICAL EXPERIENCE.

REPORTS OF CASES, ERRORS IN DIAGNOSIS AND TREATMENT.

By Dr. G. Sprague, Chicago.

Men who anchor to a spindling-sprout from the main root—a mere sprout which has come of an unhealthy growth—and must, in the nature of things, forever remain overshadowed by the main trunk and its branches; in place of cleaving to the sturdy tree itself; will inevitably drift about, catching at straws, rather than that they will be found fast anchored to those broad principles which help men out who adhere to them in every emergency, no matter what the morbid condition may be, or what the agencies required to brush these morbid conditions aside. We use this non-medical, yet not less significant term, the better to indicate how easily some very formidable ailments are made to yield, provided you locate them accurately at the outset, and apply the right agency for their removal. This, on the simple proposition that the dangerous fire may be easily and promptly subdued if you pour your stream directly upon the combustibles that have become, or are becoming, ignited, rather than to depend on sending an infinitesimal jet of this through the blaze above, this latter being, of course, a mere symptom of a real and perhaps grave difficulty deeper down.

Disclaiming any thought of wishing to deny any man the privilege of attaching himself to whatever system of practice he may prefer, we give the following cases, thinking some of the younger members of the profession may be strengthened in the belief that they are not afloat in a mere canoe, but are aboard a craft that will float them through heavy breakers, and yet adapt itself to the gentle current of an inland stream. But while it will do this it can not be held up by any visionary idea or myth:

Case I—Miss O., æt. thirteen.—While making a call on ——— avenue, the lady of the house remarked that she would like to have me see the little daughter of a friend of hers, living on the opposite side of the street, as she had been ill for a year, and seemed to be making no improvement; that she had been under the care, for the period named, of Prof. (Dr.) D., counsel having been called in during the year at sundry times. The name given being that of a regular practitioner in another division of the city, of course an objection was made to seeing the patient or talking of the case. At a later period the mother of the child requested a call; and, learning that the medical attendant did not belong to the regular profession, I made an examination of the case, finding that cold feet and cold lower limbs to the knees had been constantly present during a period of twelve months; the hands and arms being in like condition. There was present at all times a dry, harsh, bronchial cough, without expectoration, and a general pallor, with shortness of breath on the slightest exertion. Believing that in the lost balance present in the circulation, there was offered an efficient agency, and all that was required to remedy every difficulty present, I directed the mother to procure high-proof alcohol, and on a plan pointed out, administer an alcoholic vapor bath as nearly to the lower limbs and arms, feet and hands as she conveniently could, till the shrunken condition of the extremities was overcome; and having secured a return of blood to the extremities, not, on any account, fail to hold it there. Being an only child, and the anxiety being intense, I believed the directions would be followed, and they were. On preparing to leave the mother inquired anxiously, if I did not intend to leave a prescription, for medicine to be taken internally. I answered in the negative; and seeing that her confidence might weaken, I said: "Do as I direct, and follow it up faithfully, and in twenty-four hours your daughter will be better; in a week she will be a good deal better, and in a month she will be infinitely better." The result was as predicted, and in three months the patient was quite restored, soon resuming her place in school, from which she had been absent for a year.

A medical student who was in attendance upon the lectures of the medical man who had had this case in hand for a year, boastingly, in my presence, asserted his great faith in the principles of the school he was an adherent of. I cited this case, giving, in a word, the result of the regular practice. He inquired, somewhat excitedly: "*What did you give her?*" I answered: "*Nothing.*" Now, what kind of a figure does your infinitisimal cut, having been in use, without interruption, for a year, with no improvement, Alopathy stepping in, and promptly, without giving a thing, restoring the patient?

CASE 2nd. Miss F. æt. twenty-three, (whose family had recently removed here from the vicinity of New York City), having been in care of a practitioner outside of the regular school for ten years; treated during the time for mere debility, with directions to take plenty of exercise on foot; was found upon the first, very brief interview and examination; to have, somewhat grave pelvic cellulitis, with tenderness and hypertrophy of the uterus, accompanied with ante version, the uterus being four times or more larger than normal. Habitual constipation had been continually suffered from, and no especial attention paid to the condition. The case being so greatly different from what the family had been made to believe it to be, I advised that the patient have the advantage of additional medical advice; and at my instance my friend Dr. DeLaskie Miller saw the case with me; fully concurring. The patient, under treatment for the cellulitis; constipation; and through the aid of ergot; at the end of a year and a half; was found to have a reduction in the size of the uterus to nearly its normal status; the menstrual flow in the mean time, from having had a continuance of nine days, quite nearly taking on the character of hemorrhages significant of further serious complications; was, and still remains, within about three days continuance; and shows no abnormal shade of color. The father of this patient; on making a trip to New York, after diagnosis was made here, as stated; called upon the party under whose care she had so long been; demanding to know why such a grave over sight had been committed. The answer was; "well, we do not like to make such examinations on young girls."

CASE. 3rd. Mr. S. æt. twenty-one employed in one of the city banks as bookkeeper; usually having excellent health, was taken ill at mid winter of 1882–83. I had attended upon the family before removing to the north part of the city, a distance of some six miles from where they had been under my care. After the young man had been at home, off duty about a week; I was telegraphed to, with the request that I call at the bank, down town, on my way over. Meeting the brother of the patient at the bank; he, in answer to my inquiries, stated that his brother gave up work at his desk a week prior; feeling gloomy; was nervous; and could not sleep well at night. That he had been inclined to think that he was not ailing to any extent, but had drifted into a despondent mood. That, under the belief that not much ailed the young man, they had called in the nearest doctor they could find, without knowing to what school he belonged, and it proved that he was not of the regular school, and they finally, as the doctor had not seemed to make any thing in particular out of the case; and his treatment not seeming to take any effect; they had concluded to send for me." I merely answered that I did not wish to excite any undue apprehension in advance of seeing the case; but young men possessing the unusual self possession and energy of his brother; did not leave their work; become gloomy, and lay awake nights on any freak of the imagination; and I was apprehensive that the case would give us trouble. That I feared valuable time had been frittered away. On reaching the bedside; the young man met me with a stare, through a persistently dilated pupil; the carotids were beating with great force, and at the rate of 112. The temperature was at 104°, tongue heavily coated; skin assuming a yellow putty appearance; and the secretions at a dead lock. A bad case of blood poisoning was evident; and on the arrival of the brother from the bank; I learned upon careful inquiry, that the bank's water closet was on the main floor, where about fifty men were to be accomodated. That the closet had no ventilation; and was separated from the main room only by a screen. That no suitable ventilation was furnished from any source; and that usually in the winter season, there were three or four of the employes off duty; not being in condition to go on with their work. The family was at once informed that the case had, so to speak, a smothered volcano within it, that so far as treatment was concerned, the time of a week had been entirely lost. A sister of the patient, described, in a most apt and comical manner; the inrushing of the doctor first called.

He bounded out of his buggy, ran to the bedside; feeling the pulse and skin in a hurried manner, said, "the pulse is so and so, it should be so and so; the skin is so and so, it should be so and so. Leaving hurried directions as to giving certain sugar pellets, explaining that he had a great many patients yet to visit before night, rushed from the house, only to repeat with slight variations on each visit. We succeeded, in a few hours, in turning the current mildly downward, bringing to light the most vitiated secretions conceivable, and by the steady use of aconite brought the pulse down from its 112 rate, sometimes going to 120, down to 85 to 95, with temperature below 100°. On the third day, the patient, declaring that he was poisoned, and that we were aiming to poison him still more, refused any further medicine as well as food. Conceiving the idea that free doses of quinine, by the rectum, would aid in keeping the system up, in keeping the temperature down, as well as in causing the liver to give off its vitiated secretions, we gave per rectum twenty grains each four hours, managing with a view of ensuring that from sixty to eighty grains be held during each twenty-four hours. The result was as hoped for, one to two very large and very vitiated stools coming away each day, involuntarily, in the bed, the kidneys acting in like manner. As the stools and urine improved in character, the cloud upon the mind gradually passed away, and after a favorable convalesence, a sojourn of two or three months in the country; he returned to his desk with ten pounds added to the highest weight he had previously shown.

During this illness the parents of the young man being in Florida for the winter, and apprehensive of an unfavorable termination, we invited Dr. J. Adams Allen to see the case with us, his call being made immediately prior to the refusal to take further medicine by the mouth.

Case 4. Mr. F. æt. 50, came here from Newark, N. J., October, 1881. Is general agent for a prominent insurance company, had been in banking business for a long period. Used treatment for self and family outside of the regular practice. Had been constipated for twenty-five or thirty years. For past few years, more particularly during a year prior to his being taken sick and confined to his room, in November 1882, he had had severe vertigo, giving rise to a fear of going over crossings in the city for fear of being run down by teams or falling while in the act of crossing. Upon being compelled to cease all work, he called two different medical men of the school he preferred. After a week of study over the case they stated frankly that they were unable to fathom its depths, and asked the privilege of turning the case over to one of the older members of their school, Prof. ——. The proposition was acceded to, and the Professor visited and treated the patient for several weeks, for brain disease, giving phosphates, iron and German wine and koumiss freely. About Jan. 1, 1883, the patient being materially worse than at the outset, the wife having two invalid daughters in the house, with no dollar of capital accumulated ahead, and salary liable to be cut off at any moment, called upon the doctor in charge, at his house, asking that he frankly tell her what she might expect. The answer was that he had exerted his utmost skill, and without avail, that he saw no hope for her husband but through removing him to Florida; and upon being asked to state how long, in his opinion, he would have to remain in Florida, the answer was that nothing short of a year would avail anything. If he had means to buy an interest in an orange grove; and his condition permitted him to spend a portion of the time tinkering about the premises; that would be the best thing for him to do." Of course all this, or any portion of it, was an impossible thing to do. The wife came to me before returning home, and, under the most poignant distress, stated the verdict of the Professor, asking me if, after going home and talking the matter over during the following day (Sunday) in the family, if she should send for me on Monday, would I come. I answered that of course I would go; why should I not? Not waiting for Monday to come, but, on the following morning, I received a note by messenger that the patient was materially worse, and the request made that I go immediately and see what I thought of it; that word had been sent to Dr. —— to cease his visits.

I found the patient with a labored pulse at 100; the carotids bounding; neck and face puffed up by the use of the stimulants; tongue swollen and coated at the base. The skin had the appearance of yellow putty. Wakeful nights and a general feeling of impending danger prevailed. Reaching around to the right side, we made a gentle grasp after the liver, upon which the patient flinched. I asked why he flinched. The answer was "you hurt." But, on the theory that the disease is in a part distant from this, gentle pressure should not produce pain here. The question was asked, "What is that; what do you find in my side?" I answered, chronic inflammation and enlargement of the liver. The liver is so enlarged that it extends two inches below your short ribs. Upon inquiry as to the character and frequency of the stools, it was learned that the bowels moved once in two or three days, and only upon the use of an injection; that the evacuations were impacted, like marbles, and of a strictly ash color. Upon inquiry as to whether the doctors had ever examined the stools, or had inquired as to the character or frequency of the motions, the answer was made that they had not. The wife asked, with evident fear as to what the answer might be, if there was any help for the sick man. I answered, "Yes, he will be out of this bed before the week is out, and will very soon thereafter be stirring around.

We prescribed, to be put into eight capsules, hydr. chlor. mit., gr. iv.; podophyllin and aloin, aa gr. ii; ext. hyoscyamus, gr. x. One capsule to be given every night, until ordered discontinued, as it was not probable that more than six would be required. The wife was informed that the stools would be large and very offensive, and directions were given to provide a vessel for each stool, as I desired to see whatever came from him, in the regular order of its coming. The hyoscyamus produced rest during the night, and each forenoon brought two very copious, very offensive and vitiated stools. On the third day, it occurring to me that the medical man who had had the case in charge, would be benefitted by information as to the character of the case and the probable issue. We dropped him a postal, merely saying: Mr. F., living at ——, came into our care on such a day. We found him suffering from chronic inflammation and enlargement of the liver. We think in a week he will be out of the house, in two weeks he will be down to the office on LaSalle street, and in a month he will able to resume his work wherever duty calls him.

On the day following we received the following answer:

Dr. S.—*Dear Sir*: I have your note of yesterday, and I only hope your prediction in regard to Mr. F. will prove true. The case goes to prove how very difficult it is sometimes to diagnose between hypnachea of the brain and liver disease. Without stopping to question the motive of your note, I will be frank enough to say that I am willing to learn by experience, be that experience ever so mortifying. Rest assured that if ever I have another such a case I will go for the liver to its very bottom. But I still think that Dr. J. S. Jewell or Dr. Geo. M. Beard would have diagnosed the case as I did.

Yours truly, ——

Chicago, January 2, 1883.

Of course no comment is necessary on this feature of the case. The patient improved from day to day, the character of the evacuations being materially better after the fourth day; the liver softening and receding under the lower ribs, to the extent of showing but little tenderness and slight perceptible enlargement at the close of the week. The patient walked down stairs on Saturday, the seventh day, and rode out on Sunday, the eighth day. In a week thereafter he visited his office down town. In about a month he made a trip to New York on business, going by the way of Cincinnati to transact certain business there. We wrote of the case to Dr. Whittaker, directing the patient to call upon the Doctor, who would know fully of the needs, should any arise; but he had no occasion to call. He has been on the road almost constantly since and from having for a number of years believed he would die of brain disease, even believing himself liable to drop by the wayside at any time. He now states that for twenty years he has not been able to do so much brain work in a given time as he can do now. At this writing he is on a six week's business trip in Texas, and the only means required to keep up a proper elimination is a minute pill, or granule, daily, composed of aloine, podophyllin, aa, gr. 1/8; belladonna, gr. 1/4. Had this patient's system been handled with a reasonable degree of tact during the many years that he has been going down grade, suffering from blood poison, through absorption of vitiated bile and retarded fecal matter, it would not now be necessary to keep a sentinel on the watch tower to note when a granule was needed to keep the system out of the reach of vertigo and of the general feeling that the end is not far off.

The Lancet & Clinic and Obstetric Gazette to one address one year for $5.00

TREPHINING OF THE SKULL FOR EPILEPSY WITH DELUSIONS.

By **Frank Warner**, M.D., Columbus, Ohio.

Four years before his application to us for treatment for epilepsy, John W—. had fallen from a scaffold used by brick masons, of which class of mechanics he was one, and as he struck below, the occipital bone was penetrated by a nail which was protruding through a board. Previous to this time he had been free from any unpleasant cerebral symptoms. A short time afterward he became affected with epilepsy, pain in the head, over the seat of the fracture, which was just to left of the mesial line, in the occipital bone and an inch below the articulation of this bone with the parietial, and after a while developed peculiar nervous symptoms, becoming irritable, easily excited, and manifesting occasional delusions. At first all of these symptoms were mild, the epileptic attacks repeating themselves not oftener than once a month, and then, perhaps, one slight convulsion ending the manifestation of the disorder. In the course of the first two years little change was manifested, but gradually the epileptic seizures became more frequent, and instead of one or two convulsions ending the attack, three to six would follow in quick succession.

The other most prominent cerebral symptom was the occasional delusions which took possession of the patient, and they were of rather an ugly type, for the patient, imagining persons designing evil things against him, would frequently prepare to protect himself by carrying about dangerous implements.

Finally, an operation was performed, aimed to relieve these head symptoms. A V-shaped incision was made over the point where the nail had entered the skull, and the flap laid back, and three buttons of bone were in succession removed by the trephine, the reason for boring out more than one being that fragments from the inner table could be felt, which we thought proper to remove.

The pressure upon the brain from the depressed bone was very slight, but the ragged edges were sufficient to keep up a continuous local meningeal inflammation, which, to all appearances was the cause of all these symptoms.

The patient made a rapid recovery from the operation, and for two or three weeks none of the old symptoms presented themselves, then a number of convulsions followed, with the characteristic delusions. These soon passed away, after which he made a rapid, complete and permanent cure, for four years have now passed since the operation, and the patient continues in perfect mental and physical health.

Correspondence.

VENTILATION.

Brooklyn, N. Y., March 12, 1884.

Editors Lancet and Clinic:

Will you permit me to say a few words in regard to the article headed "Fireplace Ventilation" in your journal of March 1st? I am surprised that the author should have so far overlooked well-known facts concerning ventilation as to write as he does upon this subject. In the first place, carbonic acid is not the poisonous substance he implies it to be. A man can live with comfort in an air containing comparatively large quantities of carbon dioxide, provided the oxygen is kept up to the normal proportion. An animal may live for a long time in an atmosphere containing twenty-five per cent. of carbon dioxide, fifty per cent. of nitrogen, and twenty-five per cent. of oxygen; but if the oxygen be moved about in the same proportion as the carbon dioxide is put into the air, one per cent. may be fatal. The cause of the ill-effects of air vitiated by the respiration of animals is not due so much to the action of the carbon dioxide as to the withdrawal of the oxygen. This is the chief source of danger, and it can only be prevented by a frequent and thorough change of air.

In the next place, if the author will take the trouble to look up some analyses of the air of assembly rooms, or private houses occupied by persons, he will find that the per cent. of carbon dioxide is greater in the top than in the bottom layers. I have found eleven parts per 10,000 in the upper air, while at the floor, in the same room, there were only five parts. This fact is so well known that it seems unnecessary to quote authorities. Hartley ("Air," p. 108), says: "All the foulest air of a room is near the ceiling." The carbon dioxide, when it leaves the mouth or a gas-jet, mixed with heated air, is carried directly upward toward the ceiling, and does not accumulate near the floor.

I believe, however, with the author of the above article, that the open fireplace is a most efficient ventilating medium, although not the most economical one. I believe it is a more wholesome method of warming a room than almost any modern appliance that might be named. The hot-air furnace is perhaps the worst, as usually conducted; for in this appliance we force into our rooms an air which is loaded with dust, air from the sewage-soaked soil about the house, carbonic oxide, a gas far more deleterious than the dioxide, and the products of the destructive distillation of the organic matter contained in the air when it passes through the flues.

In the editorial on this subject, published in the issue of February 16th, you seem to take it for granted that there is no diffusion of the warm air downward or of the cold air upward. If you will fill a room with the smoke of smouldering paper and watch the movements of the smoke, you will see that, in spite of your reasoning, the smoke will move from nearly all parts of the room toward the fireplace, instead of from the layers near the floor only. Nor is the cold air ordinarily admitted to a room at the floor only; and unless the walls are heavily papered, they admit air at all parts of their surfaces, so that currents are moving from almost all directions toward an open fireplace. The ventilating shaft passing from the bottom to the top of the house, with a gas-jet kept burning in it, and with an opening near the ceiling, is a very efficient mode of ventilating in private houses; but where a combined heating and ventilating appliance is demanded, I think the fireplace is the best yet devised.

E. H. Bartley, M.D.

Explosive Mixtures. — *L'Independente* gives the following list of explosive mixtures. 1. Hyposulphite of lime, chlorate of potash, and sulphite of iron, mixed in equal proportions, are explosive. 2. A solution of one part of chromic acid and two of glycerine. 3. Chlorate of potash and dentifrice powders containing carbon. 4. A pill-mass, containing permanganate of potash, mixed with vegetable extracts and iron easily inflames. 5. Chlorate and permanganate of potash, and other explosive substances, ought not to be triturated with tannin or with sugar. Iodine, and sometimes an iodide, may explode if mixed with a nitrate.—*London Med. Record.*

Society Reports.

ACADEMY OF MEDICINE.

Meeting of February 18th, 1884.

W. W. SEELY, M.D., *President, in the Chair.* W. H. WENNING, M.D., *Secretary.*

Pericarditis.

Dr. Jas. T. Whittaker reported the following case: He was called to the country by another physician about five weeks ago to see a lady, perhaps fifty years of age, who suffered greatly from dyspnœa and vertigo. Her previous history, as furnished by the relations, showed that she had frequently suffered from palpitation of the heart for the last fifteen years. Her condition grew gradually worse until she became so reduced as to be unable to walk. Several physicians had at divers times been called in to see the patient and had all made different diagnoses. As the speaker suspected some disease of the heart, probably an effusion, he took his aspirator with him. When he examined the patient he found an enlargement about the heart and had no difficulty in recognizing a pericardial effusion. His diagnosis was verified by withdrawing a syringeful of clear fluid and immediately thereafter removing by means of the aspirator sixteen ounces of serum. This operation was followed by marked relief and he heard afterward that the patient recovered, at least so far as to be able to get about the house.

The speaker added that he reported this case for the purpose of making it a theme for the discussion of pericardial effusion in the chronic stage. Pericarditis occurs more frequently than is suspected, it being frequently overlooked because it is not so often attended with violent symptoms, as is endocarditis. Physicians seldom discover the friction sound of pericarditis, and when they do hear it, often confound it with the valvular bruit of endocarditis. When the suspicion of pericardial effusion is aroused there is generally no difficulty in recognizing this affection, but ordinarily it is overlooked, simply because not thought of. Most persons look upon pericardial effusion as a constitutional affection and when the amount of fluid is large we must differentiate between pericarditis and hypertrophy of the heart. The outline of dulness between the two is different, not, however, in the same degree as was formerly held. It was taught that the outline of dulness of pericardial effusion was the reverse of that of hypertrophy, the apex of the triangle being above and base below in the former, whilst in hypertrophy the figure is just reversed; but truly there are no triangular dimensions, but rather trapezoidal in pericarditis with effusion. The dulness, if there be a large amount of fluid, also reaches further up, and when it transcends the mammary line we may generally make out an effusion.

The diagnosis is still further aided by making an exploratory puncture with the hypodermic needle, but it would not be fair to exclude the presence of fluid if we should fail in withdrawing a portion with the syringe, for the small needle might be blocked with flocculi. If, however, fluid is detected the diagnosis is absolute.

The prognosis depends on the character of the fluid, the clearer it is the better it is. The fact that it was serum in the case just reported made the outlook more hopeful. It is probable that the long duration of the fluid might cause maceration of the external layers of the muscles of the heart, but as the patient so nearly recovered there could have been no extreme degree of degeneration. It is astonishing, however, how great the effusion often is and yet its presence is overlooked. The distension of the pericardial sac by fluid is sometimes immense; Corvisart found eight pounds in the pericardium and Alonzo Clark measured one gallon in this sac found post mortem.

The most interesting question to the speaker was the etiology of this affection, and to learn if any other disease had preceded the pericardial effusion he made close inquiry. The patient at first stoutly denied any history of previous disease, but finally recalled an attack of rheumatism which she had twenty-five years ago. Pericarditis does not necessarily follow rheumatism, but is often a consequence of this affection. It may of course be due to a trauma. It was formerly held that pericarditis was, like so many other affections, a result of catching cold. This causa morbis is now pretty well abandoned. The theory now advanced is that pericarditis when not caused by a trauma is due to the presence of micro-organisms. Acute articular rheumatism, as well as other acute infectious maladies, is thus produced. These micro-organisms effect the pericardium as well as other synovial membranes. Endocarditis is now also generally due to the same cause; in the ulcerative form it is universally regarded so and perhaps this is also true of simple endocarditis. It is a a noticeable fact that any disease depending on germs is liable to affect the serous membranes. Bednar said that pericarditis is liable to follow vaccination. A further proof of the probability of inflammation of the serous membranes depending on the infection by disease germs, aside of traumatism, is evidenced in the presence of such affections, as for instance, pleuritis, in fetal life, where there can be no question of taking a cold. It is probable that independent of traumatism, internal or external, pericarditis does not arise without the presence of micro-organisms, hence as a result of some infectious disease. It is probable that it is never a primary malady.

An interesting question also arises as to the proper time for evacuating the fluid. In the case reported the symptoms were so pressing and the duration of the fluid so long that the necessity of making an aspiration was unquestionable. In an individual suffering from pericarditis acutissima relief by aspiration must be immediate, as the patient might otherwise be drowned in his own fluid. Ordinarily it might be absorbed, though this is less true of pericarditis than pleuritis. The most brilliant chapter in the history of this disease is perhaps that which introduced the early removal of the fluid.

Whenever a disturbance of respiration and circulation takes place, an operation ought to be made. In recent times the tendency is to operate earlier and earlier. It is only lately, however, that the operation has been extensively made; although Romero first opened the pericardium as early as 1819, in Barcelona, it is only in the last fifteen years that this practice has become at all frequent. The great fear lay in the supposed danger of wounding the heart, or, by the admission of air, converting serum into pus; but since aspiration has been invented, the latter danger falls away, and the danger of wounding the heart is not serious. In an able monograph, perhaps the best on the subject, written a few years ago by Roberts, of Philadelphia, the proper location for puncturing the pleura is accurately given. The aspirator needle should be inserted at the distance of about two and a quarter inches from the middle of the sternum, in the left fifth intercostal space. This is undoubtedly the best place to puncture. The needle should not enter too near a rib, for fear of wounding an intercostal artery.

If the sac should refil, the operation may be repeated, though this is not so apt to recur as in pleurisy. Also, injections to promote adhesions are not so necessary, because they occur more readily in the coverings of the heart than those of the lungs. If the fluid becomes purulent the only resource left is to treat it just as we would in the pleura, namely, by incision, and washing out the cavity of the sac with some such agent as boric acid.

DISCUSSION.

DR. RANSOHOFF said the most interesting point in the case narrated was the duration of the fluid—fifteen years. As a rule, a pericardial effusion is not so protracted; when five or six ounces exert much pressure on the heart, the latter soon suffers in action, the pulse becomes feebler and feebler, and the disease proves fatal in from one to two years. The fact that so large a quantity as sixteen ounces was present in the pericardium so many years, might be an evidence that it could have remained there still longer, although it was perfectly proper to remove it if the symptoms were dangerous.

As said by the previous speaker, aspiration of the pericardium, though but lately resorted to, is usually a harmless operation. We must not forget that the puncture must be made where there is the greatest prominence of the effusion. When it is made from two and a quarter to two and a half inches from the sternum, there is less danger of wounding the internal mammary artery; but so far as striking the pleura is concerned, this is rather doubtful. The anatomical relationship is not the same in different individuals. The pleura is usually easily entered, but sometimes the left pleura runs away from its fellow on the right side, and the needle will fail to enter this sac (if such should be the intention in case of failure in diagnosis for pericarditis), although the wound made by the aspirator needle does not amount to much. Larrey says the best place for paracentesis of the pericardium is to the left of the xyphoid cartilage, by going through the diaphragm; for here there is a point where the muscular fibres are absolutely wanting. He claims if a curved trocar be pushed through the tendinous part of the mediastinum, the pericardium may then be entered. This suggestion was made, of course, before aspiration was invented. Nevertheless the speaker thought that this might yet be admissable if serum be present in the pericardium; for this fluid might enter the peritoneal cavity and there become absorbed. Perhaps the most brilliant case of surgery is that reported by Rosenstein; the pericardium was twice aspirated for serum, the third time pus appeared, likewise the fourth time, and finally the operator made two incisions, passed a drainage-tube through, and saved the case.

As regards difference between effusion and hypertrophy of heart, the speaker thought that he would ordinarily have no difficulty in making a diagnosis. He would not, however, rely so much on the outlines of dulness, which he admitted were as given by the previous speaker, as upon the character of the heart's beat. The apex is pushed off from the wall of the chest in pericardial effusion, while its distinctness is increased in ventral hypertrophy. The only other condition which might thus enfeeble the heart's beat is emphysema, which must first be excluded. This was so positive to his mind that it scarcely required the use of the hypodermic syringe.

DR. CLEVELAND was inclined to doubt the long retention of fluid in the pericardium in Dr. Whittaker's case. It looks improbable that a subacute inflammation of the pericardium should cause the fluid to remain so long. He thought there must be some mistake as to the period; for a mild pericarditis is often mistaken, and probably the patient had such an attack of this disease two or three years ago, which was then not diagnosticated. The speaker's experience lay more in children, and he found that the fluid was readily absorbed. If it existed fifteen years ago it would probably all be absorbed by this time.

DR. THRASHER thought a few points needed more elucidation. Was there any kidney trouble? or were there repeated attacks of pericarditis? The majority of cases accompany other acute diseases, the chief of which are Bright's disease and rheumatism. Rheumatism in the acute form may attack an individual a number of times. Might not, therefore, this effusion have been the resultant of numerous attacks of this disease, or, if not altogether absorbed, might absorption not go on, partly at least, and gradually the fluid again increase in subsequent attacks? The speaker's experience was limited to two cases; in one the ante-mortem diagnosis was confirmed by the post-mortem examination. The other case recovered, and it might therefore be said that there was some doubt in diagnosis. There was not much effusion, no marked precordial dulness, but this outline was broader below than above, and the fluid was absorbed in one week without interference. There was diminution in the heart's beat—it could not be felt by palpation—and the sounds were muffled, being best heard over the base of the heart, instead of over the apex.

As pericarditis so frequently accompanies other diseases, which set up similar symptoms (as, for instance, œdema in Bright's disease), it is very liable to be overlooked. In the majority of these cases we might not be able to determine whether there was pericardial effusion or not.

Dr. Christopher, too, thought it frequently very difficult to make a diagnosis in pericardial effusion. He saw five cases in the Cincinnati Hospital, and in none of them a diagnosis was made before death. Only the post-mortem examinations disclosed the fact that the disease had existed. If the diagnosis is so easy, why was it not made in any of these cases? Three of the cases were complicated with pneumonia, on which account the heart lesion was not discovered. Another case was one of double pleurisy; the symptoms resembled pericarditis very closely, but no pericardial dulness could be made out; rapid respiration being common in both cases. In the fifth case, a well-developed negro girl of fifteen years—an adult in all but years—there was dyspnœa, increased respiration, high fever; the lungs appeared normal; there was nothing abnormal about the heart, neither in auscultation nor percussion, to attract attention to disease of this organ. She afterward became better, then grew worse again, and finally died. Just before death one ankle-joint became reddened and swollen by rheumatism, which affection, in this instance, contrary to the rule, appeared much later than the other trouble. All of the cases had only a light effusion, the exudation being almost all lymphy, constituting a so-called "shaggy" heart. According to the nature of the disease, a diagnosis ought certainly to have been made in the last case, but in the others it naturally remained in the dark, as could not be otherwise.

Dr. Judkins inquired if pericarditis would be liable to follow necrosis of the rib, which had occurred five years ago and the wound since finally healed. He had such a case, upon which he had operated so long ago. The patient is a man forty-six years of age, of sedentary habits, but a cripple, having suffered from hip-joint disease in childhood.

Dr. Ransohoff inquired whether Dr. Whittaker's patient was married and had had any children, and whether she had suffered from any puerperal trouble.

Dt. Whittaker replied to the last question that the patient had a large family, at least four or five children, of whom the youngest is about fourteen or fifteen years of age. He did not know whether she had any other children since. He made a careful inquiry to obtain a history of previous disease and was most curious to detect the existence of any infectious malady, but found none besides the history of rheumatism many years ago, as already stated.

In answer to the question of necrosis of the rib being a cause of pericarditis, he replied that such is undoubtely sometimes the cause of this disease; any organic disease of the liver or stomach, even of the mammary glands and obstinate skin diseases, in short any affection in the vicinity of the heart, may produce pericarditis.

The speaker said he listened with a great deal of interest to the points of diagnosis, mentioned by the speaker who opened the discussion, between hypertrophy of the heart and pericardial effusion. Usually this is not difficult, but in a condition of this kind we do not look for hypertrophy, but rather dilatation. One characteristic sign of dilatation is feebleness of the heart's action, by which the impulse might be marked; the heart has not sufficient force to send the blood through the arteries, and hence also the feebleness of the radial pulse. In a case where such a disease lasted fourteen and fifteen years we would expect to find dilatation.

The left ventricle is not always hypertrophied, usually not the aortic but the mitral valves are insufficient. Regurgitation therefore takes place at the mitral valve, by which the left auricle becomes distended. The left ventricle then has but little to do, but the whole work is thrown on the right ventricle, which on this account becomes most affected. Consequently the accentuation of the pulmonary valves is a most common sign of heart disease. The majority of cases of valve lesion show hypertrophy of the right and not of the left ventricle, with, as a rule, mitral regurgitation.

Therefore we can more readily exclude hypertrophy than dilatation from pericarditis. The outline in both is nearly the same, base downward, apex above, only that in pericardial effusion the figure is more of a trapezoid shape. For this reason auscultation is a far more valuable means of diagnosis than percussion; the friction sound may still be heard if there be considerable effusion and it is said that it may be detected if 100 c. c. of fluid be present in the pericardium. A change of position, as for instance when the individual is made to lie on the back, will bring out this sound when there was dullness at the base before. But if the exploratory puncture is so valuable in pleural effusion it becomes especially so when the pericardium contains fluid, and aspiration, so valuable a means of diagnosis, at the same time forms the best treatment. There then is some danger of getting into the wrong place, but this does not lie in striking the pleura, or even the left ventricle (for here a wound heals up at once) but in injuring the left auricle. For this reason the puncture ought to be made in the fifth intercostal space by preference.

The speaker concluded that to him, after all, the most interesting point in this affection was the etiology. What is the process of taking cold, so often quoted as one of the causes of this affection? Certainly it can not be exposure to cold air, for in those regions where persons are most exposed, as in the Arctics, they suffer less from those affections said to depend upon this cause. Modern medicine narrows down this factor in the etiology of diseases more and more. So pericarditis is now looked upon as secondary to some other disease, as rheumatism, other acute infections, Bright's disease, etc., diseases which depend upon some infectious element. The pericardium is a serous membrane, and the joint membranes have a sluggish circulation in it; it is also, like them, a large lymph sac, and hence the reason why micro-organisms come to do most damage in these regions.

It was gratifying to the speaker to hear his statement concerning the frequency with which this disease is overlooked, so strikingly confirmed by one of the ex-internes from hospital practice, that not one of five of the cases in his service were diagnosticated during life. We need, however, only to have our suspicions excited to recognize the disease, and to recognize that it occurs much more frequently than is commonly believed.

Meeting of February 25th, 1884.

WM. JUDKINS, M.D., *Vice-Pres't in the Chair.* W. H. WENNING, M.D., *Secretary.*

Abscess of the Liver.

DR. A. G. DRURY reported the following case:

November 19, he was called to see Mrs. W., a woman of large size, and about forty-five years of age. She had intense pain in the region of the liver and stomach, with nausea and constant attempts at vomiting. She had had a slight chill, but no fever. The sudden onset of the pain, and its intensity at once suggested the presence of gall-stones. In the evening he found her somewhat easier from the use of morphia. For some days there was little apparent change in the symptoms; the pain was still present, but modified by the use of small doses of the opiate. At the end of the first week, however, the vomiting was excessive, the pain most marked in the stomach and bowels, and less noticed on the right side. The matter ejected was grass-green, and in the course of the day was large in amount. At this time a slight fever and sweat presented. Nourishment was out of the question, as she rejected even the smallest quantity of water. The bowels were moved by large injections of warm water. At the beginning of the third week Dr. Cleveland saw the case with Dr. Drury. At that time the catarrhal inflammation of the stomach, though somewhat abated was still very troublesome, the constant vomiting prevented sleep or nourishment, and she was thoroughly exhausted. About the middle of December she began to improve, she slept and sat up a little in bed. Appetite returned, and all seemed to promise well. Christmas day she ate dinner with the family. Improvement, however, did not come as rapidly as had been hoped. New Year's day she complained of pain in the right side, at the original seat of trouble, extending aronnd to the spinal column. The next day she had in addition a cough, without expectoration, and, on account of pain, could not take a deep inspiration. The following nights she slept little, coughed, had slight fever and sweat, coated tongue, and offensive breath.

About the 10th of January was noticed a hard mass at the seat of pain. Breath now exceedingly offensive, nausea great, and she vomited mucus in small quantities. Her position in bed, half-reclining, threw the skin into large folds, and hid the projecting point, which would have been plain enough in a thin subject. The speaker then told her he thought she would have an abscess of the liver.

On the 17th of January, Dr. Cleveland again saw her. On the 20th a cut was made into the abscess, an operation of some difficulty on account of the thickness of the subcutaneous fat. A large quantity of pus, having the odor of sulphuretted hydrogen, escaped.

The patient then made a rapid recovery until nothing but a small oozing sore is left. The characteristic odor alluded to above the patient experienced herself some time before the operation, and, on one occasion, when about to eat some fresh eggs, rejected them as being rotten, mistaking the odor of sulphuretted hydrogen as emanating from them.

DISCUSSION.

Dr. Young remarked that he had also heard of a peculiar odor and taste experienced by some persons suffering from abscess of the liver. A late prominent physician of this city, who had an abscess which opened into the lungs and bronchia, and was thus discharged stated that he experienced a peculiar taste, described by him as resembling a mixture of onions and coffee, some time before the abscess escaped. If the speaker remembered correctly this gentleman had a second attack afterwards, which also opened spontaneously. This was certainly a remarkable case of recovery and was largely commented upon at the time in the medical profession. The speaker, however, never noticed anything unpleasant either in odor or taste in any other cases. The green color is, however, frequently an accompaniment. The quantity contained in such an abscess is often immense; he had seen as much as a washbasinful discharged at one time. Formerly most of these cases terminated fatally but in the last few years more cases of recoveries seem to have been reported.

Dr. Ransohoff thought that the essayist ought to be congratulated upon the result of the operation. The case was of interest because it was not in accord with the history of most cases of this nature. Generally the trouble originates in the lower portion of the small intestines, but here it seems to have arisen from the stomach. When the essayist was narrating his case the speaker first thought that the abscess might have resulted from the presence of gallstones. But the most remarkable feature is the rapidity with which health was restored, although the recovery is not yet perfect, as there seems to be still a small oozing wound left. Another interesting fact is the boldness with which the essayist plunged the knife into the abscess, a boldness which truly challenges admiration. It is true that aspiration alone is no more proper in an abscess of the liver than when situated elsewhere, nevertheless the speaker would hesitate to proceed so boldly at once in making an incision, on account of the danger of the contents of the cavity escaping into the peritoneum, if no inflammatory adhesions to the abdominal wall have taken place. He himself had one successful case, reported before this Society not very long ago, in which two aspirations had first been made, and, as no permanent benefit resulted, finally free incision was resorted to. Here also there were no adhesions of the sac to the abdominal wall and for this reason he cut through the abdomen into the abscess with the actual cautery. Four quarts of matter streaked with pure bile were then discharged, and permanent irrigation with hot water was then practiced for two or three weeks until recovery. As was stated at the time, the laryngoscopic mirror was used to inspect the walls of the cavity, a proceeding which might at first seem very insignificant, but its great advantage was demonstrated by the fact that a large slough could thus be seen and removed, which could not have passed spontaneously through so small an opening. Even irrigation could not have carried it away, as it would remain by its weight at the bottom of the liver cavity and thus have prevented healing. For the same reason aspiration is of no avail, because these sloughs will occlude the opening of the tube. There are other methods of opening the abscess of the liver which ought to be resorted to first, if there be any suspicion that no adhesions have taken place between the abscess cavity and abdominal wall; if such adhesions have been found the knife will answer as well as anything else, but before that we ought to be very careful.

DR. YOUNG said that the remarks of the previous speaker reminded him of the lessons taught him when a student. On account of the uncertainty of the formation of adhesions the rule laid down was, to advance carefully and, if possible, before cutting into the sac, to excite adhesion between the two surfaces by irritating them with needles. He began to make this operation only since the late civil war and in his first case this idea came to his mind. Since then, however, he had become more emboldened with his success and afterwards operated whenever he saw a projection of the surface indicate the presence of an abscess. Of late years, he again began to feel a little more hesitant, lest he might commit a serious blunder at some time by such boldness. He was strongly inclined to believe, however, that we could operate sooner than is usually done, and that when a projection is apparent, adhesion has actually taken place. His theory for such an opinion was that the tissues covering the abscess have become absorbed, the walls have become adherent to the abdomen, and hence the projection.

DR. RANSOHOFF hardly thought that any degree of prominence would justify the assumption that adhesions have taken place. In his case the amount contained in the sac was enormous, the projection very marked and yet there were no adhesions. When the opening was made he did not strike upon the liver, but upon a portion of the great omentum; this could not be worked back into the abdominal cavity, although there were no adhesions of the sac either to the omentum or to the abdominal wall. If the abscess had been boldly opened with the knife, it would have discharged into the abdominal cavity and peritonitis would have been the result.

The speaker would not have it understood that he was in favor of waiting for nature to form adhesions to the abdominal wall; for if we wait too long pyemia may set in and the patient may die from this or the symptoms of drainage of the system before adhesion takes place; or the abscess may break into some dangerous place. He was, on the contrary, in favor of an early operation, not, however, by incision alone. It made no difference how adhesion was produced, by sutures, injections, etc., but it must not be left to nature alone.

The speaker this day saw a man, forty-five years of age, who, two months ago, had an attack of dysentery. Four weeks ago he began to vomit and felt a pain in the right side. On examination the dimensions of the liver were found to be very great, extending from the umbilicus up to the nipple and the fourth rib in the axillary line. As fluctuation was detected a hypodermic needle was introduced and a syringeful of serum tinged with blood withdrawn. The patient is greatly jaundiced but this morning there was a reduction of temperature to 91½°. The speaker did not know whether this was a case of acute hepatitis or hepatic abscess. If it should prove to be the latter he would soon operate.

DR. WM. JUDKINS said that in June, 1882, he saw a case of hepatic abscess in consultation with Dr. G. B. Orr. The man was a German, thirty-eight years of age, married, stone-mason by occupation. Twelve months previous his health broke down. He, at that time, had been working at his trade in New Orleans for fifteen years, always enjoyed good health, weighing 200 pounds. In hopes a change of climate would be beneficial he came here with his family. He had been treated by a number of physicians, going from one dispensary to another and from hospital to hospital. At the last one, the St. Mary's on Betts street, he only remained a short time, as the surgeon in charge told him he could do nothing for him, and advised him to return to his family, which he did. Two weeks afterward Dr. Orr was called. The speaker was asked to see him the next day. Examination showed an enlargement in the right hypochondrium, seven inches in diameter, with well marked fluctuation on palpation, pulse 120, respiration 48 per minute. As it was evident dissolution was imminent, and that in a very short time, operative measures were at once instituted to give relief according to the method adopted by Lawson Tait; dissecting through the abdominal walls to the gland substance, introducing silver sutures on each side of the incision, through the skin, muscle and liver, and stitching the gland to the abdominal wall. Before opening the cavity of the abscess a good gallon of pus flowed from the opening within fifteen minutes after making the cut. A drainage tube was introduced from which pus flowed almost continuously the remainder of his life. A marked change in our patient was manifest at once. He at no time was under the influence of an anæsthetic, as it was deemed unadvisable to administer the same, and so he watched the operation in all its steps with the fortitude of a Spartan. His breathing instantly became more and more easy as the pus grew less. His countenance, that up to this time had been one of extreme anxiety, changed to the direct opposite, and the expressions of gratitude and the manifestations of comfort that he experienced were loud and sincere.

He died from exhaustion twelve days after the operation. Twenty-four hours after his death Dr. J. R. King made a post mortem and found that the liver was a mere shell, about one-third of its substance was left, the upper portion of which was adherent to the diaphragm through which was a perforation. *The whole of the right pleural cavity was filled with pus. The right lung was pushed up to the apex of the thoracic cavity, firmly consolidated and was compressed into the size of two fingers.* The adhesion between the remnants of the liver and the abdominal wall at the seat of the operation was perfect and complete. No peritonitis whatever.

The case was interesting from the fact that it was possible for one to live the length of time he did with such extensive destruction of liver substance, and from the fact that at that time, to the speaker's knowledge, this was the first operation in America which had been performed strictly after the manner of that illustrious English surgeon, Lawson Tait. We felt at the time, and do yet, that an earlier operation would have saved the man's life.

Dr. Young inquired if any one present had heard of the remarkable reports made at one time by ex-Surgeon General Hammond, of New York. He claimed to have diagnosticated a number of cases of abscess of the liver through the intercostal spaces of the right side long before the presence of an abscess was detected by others. He said that a fulness of the intercostal spaces, eliciting dulness on percussion, was the physical sign.

Just before the publication of this report the speaker had lost a case of abscess of the liver in consequence, as he supposed, of rupture into the peritoneum, the contents being discharged alongside of the rectum. He was surprised at the number of recoveries, namely, of all of the cases, as reported by Hammond, but since then he had found no similar reports either by Hammond or any one else.

Dr. Drury, in concluding the discussion, said that nine years ago he reported a case, an exact counterpart of the present one, only that it occurred in a child eighteen months old. It had previously had scarlatina and measles, and was in a very bad condition, belonging to a very poor family, with bad hygienic surroundings. He treated the abscess in the same way, by incision, without any difficulty, and removed about ten ounces of pus. It took twelve months for recovery to take place, but the child ultimately got well.

In the case of the woman reported this evening, he also thought of adhesion, but he found that no time was to be lost; something had to be done, and that speedily. If he had not operated, pus would have escaped into the abdominal cavity. Before making an incision he inserted a hypodermic needle, but he found that it could not reach the sac. He therefore made an incision, and not succeeding with the first in drawing pus, introduced the knife a second time with success, both times to the handle. Encouraged by the first operation in the child, he resorted to it in this case, and should the same opportunity offer the third time, under similar circumstances, he would operate again in the same manner. In such a case there is no opportunity to tell about adhesions.

We could not tell anything about the cause in this instance. During the summer the woman had attacks that he attributed to malaria. For a day or two he thought that she was afflicted with gallstones, but he found nothing to justify this opinon in the end.

Dr. J. K. Bauduy, Prof. of Nervous and Mental Diseases, Missouri Medical College, says: "After a thorough and continued trial of Bromidia at St. Vincent's Asylum, I can cheerfully certify to its great therapeutic value and purity. *Its effects are much more rapid and efficient than the ordinary chloral mixtures.* The sisters in charge of the wards, after using the Bromidia and comparing its effects with the ordinary chloral mixtures used so long as a hypnotic, claim great superiority for the former. Its success has been tested where the other, in similar doses. has failed. The purity of the chloral and the extracts of cannabis indica and the hyoscyamus which it contains, together with the small dose of the remedy which is required, make it almost invaluable to medical practitioners, *who are guaranteed a pure and efficacious remedy in the use of* Bromidia. *Experience in its use requires us, as a matter of justice, most emphatically to indorse the preparation after an extended and impartial trial.* In fact, we expect in future to use Bromidia exclusively.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Thursday Evening, February 28, 1884.

The President, DR. TYSON, in the Chair.

Specimens from a Case of Extensive Trephining of the Skull. Presented by DR. NANCREDE.

These specimens, consisting of nearly the whole right squamous plate of the temporal bone, the inferior angle of the parietal, and a portion of the frontal—in other words, the anterior two-thirds of the temporal fossa, from the orbital plate nearly to the temporal ridge, and from the external angular process of the frontal to a line posterior to the external auditory meatus—were removed by the speaker from a man who had been struck by an iron lever which caught his head between it and a large beam. Although the depressed area must have been fully an inch deep, yet he walked into the surgical dispensary of the Episcopal Hospital presenting apparently neither motor nor sensory disturbances, pupils and tongue normal. He was at once sent up to the male surgical ward and the speaker proceeded to trephine him, cut away the overhanging shelf of sound bone with the "rougeur," and thus elevate and remove over a dozen fragments of bone. The dura mater seemed uninjured. As the specimens show, the middle meningeal artery must have been torn, and fortunately twisted in removing the fragments, as is was completely surrounded by a bony canal. One branch of the meninges was tied with fine catgut ligature and the wound, as well as a deep scalp cut on the opposite side, were dressed with mercurial bichloride.

He has done well since.

Specimen of Enlarged Bronchial Glands which had caused Intra-Thoracic Pressure. Exhibited by DR. E. T. BRUEN.

These specimens were taken from a man, aged forty-four, who had suffered for some years from chronic bronchitis. The bronchitis was probably due to his exposure to the fumes of coal in the gas works. There was no emphysema. The bronchial glands are deeply segmented and much enlarged, forming in all a mass five inches long, three inches broad and two inches thick. This enlargement surrounds the trachea and slightly overlaps it anteriorly. A portion of the formation covers the origin of the right bronchus, but the left is also somewhat enclosed by the enlarged glands. In addition many isolated bronchial glands will be found much increased in size. The lungs presented evidences of chronic bronchitis and lymphatic irritation. The aorta is atheromatous and dilated. Heart normal. This specimen is exhibited chiefly to illustrate the possibilities of intra-thoracic pressure from this source. It will be seen that these enlarged glands occasioned serious pressure upon the lower portion of the trachea and the upper portions of the bronchi. During life there were many symptoms traceable to reflex irritation of the pneumogastric nerves and there were also symptoms of pressure upon the œsophagus. The writer has published a detailed account of the symptoms incident to similar conditions in the *American Journal of Med. Sciences*, July, 1883. The cause of the enlargement of the bronchial glands in this case must have been the chronic bronchitis, although similar enlargements sometimes follow dilatations of the aorta. It is curious to note that degenerative changes in the lungs, or hepatization were not observed.

DR. SHAKESPEARE said the case was of interest from several points of view, one of which was the great enlargement of the bronchial glands without either lung or any other thoracic disease. It was an extraordinary thing that the enlargement had progressed so far without any apparent primary point of origin in the tissues in which the lymphatic radicles take their rise.

DR. TYSON was inclined to attribute their enlargement to anthracosis.

DR. BRUEN said that one of the latest writers upon bronchitis states that the reason for the intractibility of chronic bronchitis is due to the constant co-existence of lymphatic disease, thus inducing venous congestion, catarrh, etc.

Cystic Degeneration of a Fetal Kidney.—Presented by DR. G. E. DE SCHWEINITZ.

I desire to present this evening an example of cystic degeneration of a fetal kidney. The specimen was removed from an eight month's old fetus brought to the University Museum by Dr. George Horn, of this city. The fetus in question, in addition to this anomalous condition of its kidneys, presented also other interesting abnormalities, having, at the position of the posterior fontanelle, a large meningocele; further an imperfect development of the external genital organs; and last, but not least remarkable, six fully developed fingers on each hand and a similar number of equally fully developed toes upon each foot. Upon opening the abdominal cavity both kidneys were found to present appearances of the one I exhibit to-night. It is enlarged, having a length of about four and one-half inches and a breadth of nearly three, or about the size or a little greater than the size of a normal adult kidney. The capsule can be detached with a moderate degree of ease and the organ is surrounded with its usual envelope of perinephritic fat. Both upon the free and also the cut surface are seen numerous cysts, varying in size from a small marble to a split pea or even smaller; each cyst having a moderately firm capsule and upon incision discharging fluid contents. Very distinct lobulation of the kidney is a marked feature. It is perfectly plain that we have here a specimen of what is referred to by systematic writers upon pathology as congenital renal cysts. Rindfleish speaks of kidneys of this sort usually producing death to the child, either during birth or immediately after, by pushing the diaphragm up and thus occupying space necessary for the movements of the lungs. He further indicates that the malpighian corpuscles constantly prove the points of departure for these cysts, although degeneration in the continuity of a urinary tubule may also contribute in the formation of the cystoid change. Both Virchow and Rindfleish consider "an intercalation of a mass of connective tissue between the renal calyces and renal papillæ as a cause of this congenital cystoid degeneration. A rather hurried microscopical examination of this specimen reveals the following points: Nearly a total absence of any true renal structure, the greater mass of the organs being composed of connective tissue, through which are scattered numerous free nuclei; cysts, the walls of which are lined with a single layer of cubical epithelium, and in such, which evidently arise from malpighian corpuscles, the remains of the vascular tuft is sometimes seen, the wall having been drawn back from the vascular coil, as Rindfleish puts it; quite large vascular channels and blood vessels usually filled with blood corpuscles, and, finally, decided areas of fatty infiltration, the fat cells having inserted themselves between the connective tissue. Further and fuller microscopic examination of the organ may probably discover other and different changes which have not been described. Joh. Klein demonstrated renal cysts in an adult case to arise from degenerated Boumann's capsules, which contained cholesterin crystals, fat granules, or, as he expressed it, "renal sand." Such conditions were not discovered in this case.

Dr. Tyson said that it was remarkable how long persons with this congenital cystic trouble will live. Adults are found post mortem with kidneys the size of a fetal head, with cysts as large as marbles, and apparently no renal tissue left, conditions which have evidently existed for years.

Round-Celled Sarcoma of the Superior Maxilla.—Excision of that Bone with the Malar. Exhibited by Dr. C. B. Nancrede.

Thos. A., aged fifty-six years, was admitted to the male surgical ward of the Episcopal Hospital, in the fall of 1883, with what appeared to be an ordinary epulis of the back part of the right superior maxilla. On November 2d, 1883, Dr. Packard removed the growth with the contiguous alveolar processes, and wiped out the wound with a twenty-grain solution of chloride of zinc. Microscopic examination of the growth showed it to be small round-celled sarcoma. It rapidly returned, so that in two weeks it was larger than when first removed. He, Dr. Packard, removed this second growth with the outer wall of the antrum, the alveolar border and most of the maxillary tuberosity. Wiped out again with chloride of zinc solution; all morbid tissue seemed removed, yet in less than six weeks it again began to fungate, and during the past week its enlargement can only be compared to that of a mushroom, the increase from day to day being readily perceptible. On February 27th, 1884, the growth nearly filled the mouth and pharynx, and pressed upon the tongue so that deglutition was almost impossible. Accordingly upon that day I proceeded to perform a formal excision of the upper jaw, removing also the right malar and part of the left side of the ethmoid. Owing to the efficient assistance of my colleague, Dr. Forbes, the hot iron was unnecessary, the internal maxillary being caught and tied with singularly little loss of blood.

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Cincinnati, March 22, 1884.

Selections.

MEDICINE.

NATURAL GROUPS OF SKIN DISEASES.—An abstract of a lecture delivered, by Jonathan Hutchinson, F. R. S., at the London Hospital and published in the *Medical Press*.

He commenced his lecture by explaining that it was his intention to deal on this occasion with those diseases which occur on the surface of the body, and about the nature of which it was very desirable that accurate knowledge should be possessed. It would be his endeavor to offer as clear an indication as possible of the grounds on which such affections ought to be grouped especially since the number of artificial and inaccurate modes of classify ing them in the past had introduced an amount of confusion concerning their actual nature which could not fail to be a source of perplexity and error. Many morbid phenomena presented by the skin have been dubbed with special names and given the importance of essential diseases, whereas, they were in reality but attendants, and often of a very minor kind, on such diseases. The only reliable and efficient classification was that which was based on a recognition of causes and natural relationships, and which should associate together under a single heading those varieties of skin diseases which owed their origin to the same or a similar cause. It mattered not how far external appearances seemed to separate them provided their existence could be traced to essentially similar causes; they must be associated together as produced by a common agent.

In the same manner as botanists had come to discard the artificial classification of Linnæus in favor of a system of grouping flowers founded on the apprehension of deeper and more scientific distinctions than the mere numbers of petals, stamens, etc, so must dermatologists deal with symptoms exhibited by the skin. Avoidance should he had of errors like that comparable to inclusion of rabbits and donkeys in one group because of length of ear displayed by each, and which, spite of its apparent absurdity, is little worse than classification together of scabies and eczema as vesicular eruptions, or of Addison's disease as a form of cutaneous atrophy—an error contained in one of the most recent dermatological systems. In a word *causes*, and not *names*, are to be accepted as governing arrangement of skin diseases into groups; and although the extent of our present knowledge permitting such a performance seems to be very limited, yet when duly formulated, it attains not undesirable proportions, while it steadily increases with attempts at orderly distribution, and is constantly affording the means of further improvements.

The first group for consideration, as being the one easiest to understand, includes those diseases which owe their origin to the presence of a vegetable parasite in the skin or its appendages. These are not influenced materially by any predisposing causes connected with the health of the individual; and, though this opinion did not always obtain, it is no longer insisted that favus, for instance, is directly associated with the scrofulous diathesis, and that only delicate children are subject to attacks of ringworm. Innumerable instances of the latter complaint attacking a succession of healthy children in a school, or of calves on a farmstead, conclusively disprove the fallacy contained in the argument of predisposition; and any necessity for impaired vitalisation as favoring their development is negatived by observation of the fact that, while some forms of cryptogamic life do undoubtedly succeed only on weakly organisms, yet other forms again infest the most healthy individuals.

Inasmuch, then, as fungi which produce favus, chloasma, ringworm, demand no special conditions on the part of the skin they select for the seat of their development, and are productive of purely local diseases, so they are curable by local remedies, obeying as they all do the same general laws. They do not, however, all produce the same external appearances the utmost unlikeness, for instance, existing between the dry, scaly patch of common ringworm and the boggy abscess associated with cherium; and in explanation of such variations it is necessary to invoke that assemblage of conditions to which the name temperament has been applied, leaving aside, as not complicating the result, any question of state of health *per se*.

Under Group I. are thus included—

a. Favus;
b. Ringworm;
c. Chloasma.

The microscope suffices to reveal the real nature of these diseases, the presence of which is directly traceable to growth of a vegetable mould. Their varieties will be influenced by the temperament of the individual, by the age of the affected tissues, and the part invaded. Skin, hair, and nails will present each different appearances under invasion by the same disease, and, in addition to the special body region, climate and weather, also, will influence the character of the growth.

There are two maladies concerning which an absolute dictum as to their position under Group I. must depend on further investigation,—viz., alopecia areata, and molluscum contagiosum. Mr. Hutchinson inclines on clinical grounds to give them position as vegetable parasitic diseases, but defers to their relation pending further evidence of their origin.

[A number of illustrations were here exhibited to show the extent to which the human body may sometimes be covered with the crusts formed in these diseases, without material impairment of general health, and commenting on these the lecturer pointed out that pityriasis versicolor and ringworm were mutually interchangeable diseases between adults and children, the former communicated by adults to children appearing in the garb of ringworm, and *vice versa;* and Mr. Hutchinson believes that chloasma in adults, resulting from transplantation of ringworm from children, is dependent on precisely the same form of vegetable parasite as the latter.]

In the second group to be considered, the acting cause of disease is an animal parasite, and its principal representatives are scabies and pediculosis; but it includes as well a large number of variable eruptions produced in presence of occasional parasites.

Under scabies is to be classified every form of eruption due to the presence of the scabies parasite, or itch insect. Its character will be influenced by age of patient, irritability of skin, and its liability to cell effusion, the part effected, and duration of the disease. It may be vesicular, pustular, or papular, or marked only by a red litchenoid rash; but in all conditions, the cause being the same, the terminology must likewise be the same. Similarly, however varied the appearances of the eruption produced by pediculi may be, all must be included under the name pediculosis, the features of which are likewise dependent on such characters as have already been said to influence scabies. Both diseases, moreover, may produce long-standing disturbances in the sensory endowments of the skin, which may very slowly revert to a normal condition of quiet. This condition has been distinguished by the name prurigo, as though it were a special entity, whereas, it is a state induced by veritable presence of one or other forms of parasite at some antecedent period.

Besides the diseases already name, Group II. includes all eruptions and inflammatory states of the skin due to bites of insects, such as fleas, gnats, mosquitos, etc. Many eruptions occurring in individuals with specially sensitive skins are doubtless due to such causes, and most instances of prurigo urticans, pruriginous lichen, urticaria pigmentosa, u. pustans, and many other highsounding affections are nothing more, Mr. Hutchinson thinks, than results of flea-bites on skin of peculiar organisation, a view he has verified by careful and continued observation. Thus, one member of a family of children will alone be subject to to an irritative and persistent form of eruption, and will suffer exacerbations every time it approaches a cat or a dray, or rides in a 'bus, and the scratching necessitated by the flea-bites will perpetuate and aggravate the resulting prurigo. Mr. Hutchinson recalled one case in which a child was covered with a most alarming bullous form of purpura, the consequence of a visit to the Zoological Gardens; and he has known adults also to be the victims of eruptions caused entirely by fleas, which eruptions recur at every visitation to a fresh hotel or other place, the explanation given by the patient being that, in spite, of every care, change always subjects him to an attack of nettle-rash.

Too great allowance cannot be made for personal idiosyncrasy in such matters, for the bite of a wasp may in some constitutions set up most dangerous symptoms, or that of a gadfly, an irritable tubercle which may last for months. There is reason to suppose, also, that eruptions occurring abroad, and receiving local names—viz., Natal boil, are really caused by insect bites.

Group III. includes eczema due to local causes, and is very difficult of definition. It is necessary in consideration of this form of eruption to regard constitutional characters as well as the local cause, so that it is practically imposible to make two sharply-limited classes according as the local or constitutional causes are the prime influencing factors. In all cases of eczema some inherited peculiarity of skin must be admitted, for, while some persons contract it on the slightest provocation, others never are affected by it.

A group, however, may be provided to include all those forms of eczema due to such exciting causes, in predisposed individuals, as are encountered by bakers, millers, dyers, paper stainers, potboys, etc., and in most cases this form is, if slowly, curable when the local cause is removed. The discharges are irritant, and tend to maintain the disease, and may lead to spreading of the eruption from a local origin over all the body.

All forms of eczematous eruption, of whatever variety, must be included in this group, which possibly, also, should embrace those forms of eruption found in gouty subjects, and due, it may be, to a peculiar property of the prespiration secreted locally. Mr. Hutchinson, however, cautioned his audience against assuming that he desired to include all forms under the heading given, but that very many varieties might be so classified.

The preceding groups include nearly all diseases of the skin arising locally. The fourth group is of a very different character, and includes

Group IV.—The Exanthemata — which are, all forms of inflammation of the skin which may result from the breeding in the blood of specific and particulate forms of virus introduced from without by contagion or infection. The class comprises measles, varicella, variola, rötheln, typhus, and typhoid fevers, syphilis, etc.; all observe certain stages in their course, and contagion precedes the eruption in all for a certain period, such eruption being, it may be, due to presence in the skin itself, of the particulate virus. Each disease has its characteristic eruption, except syphilis, of which the rash may present imitations of every other form of skin disease.

Exanthematous eruptions are transitory, and though varying in degree and severity in different individuals, observe about the same duration, especially in varicella and syphilis, in which the eruption may be prolonged and recurrent. In all, however, sequelæ are commonly observed, the tissues being left by the fever they indicate in a state of peculiar liability to chronic inflammation, passing even into gangrene or phagedæna, *e.g.*, cancrum oris and noma after scarlet fever, and the phagedænic changes after syphilis.

Group V.—Syphilitic eruptions.

Groups VI. and VII.—skin diseases due to acute and chronic forms of poisoning—include rashes induced by copaiba, iodine, quinine, etc., urticaria ab ingestis, etc.

Though many of these are well known and easily recognized, probably the origin of many diseases properly included in this group is never suspected; and even the iodide rash has only lately been fully appreciated. Obscure rashes should, therefore, always excite suspicion of drugs or diet before being abandoned as inexplicable. Idiosyncrasy is the only explanation to be found for these eruptions, which may take the most unlike forms, though due to the same cause, in different persons — arsenic, followed by eczema in some; in others herpes zoster; and in yet others, a general psoriasis-like condition of the skin. This group of rashes is transitory, but, if permitted to continue too long, body changes, resulting in death, may supervene.

Group VIII. includes chronic skin diseases of dietetic origin, such as leprosy, pelagra and gouty eczema.

Group IX. — This group is made to include a large family, hitherto regarded, as a rule, as quite distinct forms. They are, in respect to cause, for the most part inexplicable, and originating, as they appear to do, in healthy subjects, they possess a self-dependence and completeness characteristic of no other forms yet discussed. Concerning them the most hopeful dermatologist can hardly anticipate any accession of knowledge, and he must bound it by his present information of psoriasis, pemphigus, lichen ruber, leucoderma and some others, these constituting the series in question. They begin in persons apparently in good health; they are always symmetrically disposed on the two halves of the body. They steadily increase, unless arrested in their course by appropriate treatment, which, as far as we know, is summed up in the administration of one drug—arsenic. Leucoderma may have to be excepted in this last respect, but Mr. Hutchinson is doubtful if this will be found to be so. As a rule, these diseases affect but one member of the same family; they are neither epidemic nor endemic, and position on the world's surface does not affect their prevalence, Young children are liable to them, but mere infants escape. Though arsenic cures, relapses occur; but under each disease such relapse is less severe than the original attack.

In respect to the causation of this group, Mr. Hutchinson is inclined to regard them as dependant on inherited peculiarities of structure, the sufferers from them being, in a sense, predestined to them from birth. In absence of a better name for the group, he entitles it the Psoriasis family.

The Theory of the Perspiration.—

By P. G. Unna, *Schmidt's Jahrbücher*.

During the last few years astonishing progress has been made in this department of inquiry, especially as relates to the nerve-tracts which serve as excitors of the perspiration, so that a superficial observer might suppose it to be now completely explored and capable of direct pathological application. And yet, every student by whom this application has been attempted, is aware that even those familiar phenomena known as "cold sweat," and "dry heat" of the skin, are at this moment as inexplicable as they were ten years or a century ago, since they require the solution of problems which thus far have hardly been grappled with.

Medical opinion respecting the sources of human perspiration has been constantly alternating between two extreme conceptions. According to one of these, it is the product of special secretory organs, while the other regards it as derived in all its forms from a mere physical evaporation of transuded liquor sanguinis. This latter was the theory which universally prevailed until Malpighi's discovery of the sudoriferous glands. Under the influence of Haller, the physical hypothesis temporarily regained its sway, but more advanced anatomical knowledge caused the sensible perspiration to be again ascribed to the action of the sudoriferous glands; but as to the origin of the insensible perspiration opinion still remained divided, until the era of Krause's observations.

One of the chief services rendered by this inquirer was his clear demonstration (in 1844) of the fact that the deposition of sweat in drops upon the surface cannot possibly take place by evaporation through the epidermis; but that, on the other hand, watery vapor may make its way through the latter, as indeed it is constantly doing in large quantities. He found that sweat is also formed by the precipitation and condensation of this transuded vapor, but that the amount thus produced is exceedingly small when compared with that which he supposed to arise from direct action of the glands, and which, moreover, may itself likewise be recondensed and returned to the surface after evaporation.

But the question arises, why did Krause and his contemporaries, and why do we, assume that the sensible perspiration is produced solely by the sudoriferous glands? Only one reason can be given, and this is founded on the familiar fact that on the palm of the hand drops of sweat can be seen by the naked eye issuing from minute funnel-shaped pores, and that these pores are the terminations of the excretory ducts of the sudoriferous glands. But though this is true, it does not necessarily follow that the secreted fluid must always proceed from the convolutions of the sudoriferous glands and from them alone. On the contrary, it is shown by the latest anatomical researches into the subject that the tissue-juice which circulates freely in the space included between the spinous cells and the granular layer, easily passes over, under the pressure caused by its accumulation at this level, into the lumen of the excretory duct, and coming out at the above-mentioned pores of the epidermis, is readily mistaken for a glandular secretion.

Questions like this, however, would be of little consequence, if the common supposition that perspiration is the product solely of the contorted tubes of the sudoriferous glands could be brought into harmony with all the other facts of the case, or even if it had never been seriously controverted.

But Krause's views soon met with a powerful opposition. George Meissner, in 1856, contended that the actual perspiratory function— the production of sweat—belongs not to the contorted tubes of the sudoriferous glands, but to the entire papillary body. Meissner founded his position upon the following facts: 1, that all sudoriferous glands periodically contain fat; 2, that the axillary and ceruminous glands, which are histologically most closely allied to the sudoriferous glands, specially and constantly secrete fatty substances; 3, that in the lower animals structures precisely similar to the sudoriferous glands are evidently designed for the lubrication of the skin. As the matter now stands, no one has yet succeeded in tracing the passage of water from the fundus of a sudoriferous gland to the surface through its excretory duct, as has actually been done in the case of the fatty secretion.

As already stated, then, the only foundation which is left for the current theory is the simple fact that drops of sweat can be seen emerging upon the skin, and this, it has been shown, is entirely inconclusive.

Meissner is not alone in the maintenance of this view. Kölliker, in 1855, came to a like conclusion as to the similarity in structure and function, between the sudoriferous and the axillary glands. In a case of so-called *ichthyosis congenita* he found the canals of the former completely filled with white fat. My own observations have led me to a unitary conception of the convoluted glands of the human skin. Like Kölliker, I find that, taken together, and including the smallest and most rudimentary glands of the trunk, those of the palm and sole, and the anal, papillary, axillary and ceruminous glands, they exhibited an uninterrupted and almost imperceptibly graded ascent in the scale of development. Their special constituents, *viz., fatty drops, pigment-granules, and the mucous, shining debris of cells* are those which are found in every drop of sweat when freshly exuded upon the palm of the hand. In the sudoriferous glands, as in many of the salivary glands, two different kinds of secretion appear to be formed, dependent, probably, upon different conditions of the organs, according as they are acting after rest, or in a state of partial exhaustion from fatigue. The clear, glassy kind of secretion produced under ordinary circumstances is quite different from the profuse, watery sweat called forth by a vapor-bath, or by pilocarpin.

Evidence of another kind has been adduced from the *the distribution of the sudoriferous glands in the human body, when compared with that of the most easily perspiring localities.* But the facts in this case are not favorable to the popular theory. The face, the throat, and the back of the neck sweat very easily, the palms of the hands much less so (except in the subjects of hyperidrosis manuum). Yet (according to Krause) the last-named region contains 2,716 sudoriferous glands to the square inch; the neck (front and side), only 1,303; the forehead, 1, 258; the checks, 548; and the back of the neck, only 417.

The axillæ and the perineum are the only places where both these conditions—an abundant supply of sudoriferous glands, and profuse and easy perspiration—are found to co-exist. But here another factor comes into account—*the warmth produced by surfaces in continuous contact*—which deprives these instances of their importance. As to the idea that an abundance of sudoriferous glands may be connected with *a thickness and consequent dryness of the epidermis* in particular parts, it is one that has a seeming probability only with regard to the plantar surfaces of the hand and feet. The very reverse is what generally obtains; the thickened epidermis of the back and of the anterior portion of all the limbs coincides with a small number of sudoriferous glands, while the thinner investment of the breast, abdomen, and posterior portion of the limbs is accompained by a. much larger supply of those organs. On this point, it is sufficient to remark that if it be considered with reference to the latest scientific doctrine of human development, we shall find that *the favorite localities of the sudoriferous glands are the contact-surfaces of the body*, in the widest sense of this term. *By contact-surfaces*, I mean the soles of the feet, the posterior aspects of the limbs, the bends of the joints, the cleft of the anus, the genital and mammary regions, and finally, the folds of the groins, the breast, abdomen, and palms of the hands, although these last are no longer in constant contact with other surfaces. All these surfaces require, on the one hand, to be kept well lubricated, and, on the other, represent so many places for the production and storing up of certain odoriferous materials which discharge a more important office in the economy of the inferior species than in that of man. I regard the collections of convoluted glands in the human axillæ as surviving representatives of similar scent-producing and lubricating organs extensively met with throughout the animal kingdom at large. The predominant fatty and pigmentary contents of the ceruminous glands may also be looked upon as resulting from a functional modification induced by their having remained in a state of permanent repose—of freedom from all disturbing nervous influences—a state which is likewise caused by senile involution even of ordinary small sudoriferous glands, since, under this condition, we find the epithelium of the latter stuffed full of fatty and pigmentary granules.

If it cannot at present be positively proved that the convolutions of the sudoriferous glands furnish fatty and odoriferous materials as special constituents of their secretion, we shall, at least, not err in regarding them as the source of the fatty acids to which the sweat owes its *acid reaction*. Trumpy and Luchsinger have lately endeavored to show that the doctrine of the essentially acid reaction of the perspiration is incorrect, and this effect is due to a mixture of decomposed secretion from the sebaceous glands; *the normal reaction of pure sweat*, they contend, *is alkaline*. But this, in my opinion, is putting altogether too much on the sebaceous glands, and is physiologically untenable.

A large number of experiments on both healthy and morbid perspiration have yielded varying results as regards this condition. Sweat produced by pilocarpin after a thorough cleansing of the skin from oily deposits was at first neutral, but soon changed to alkaline. In a case of tic douloureux, accompanied by longlasting perspiration confined to the right half of the entire body, I found the reaction, in numerous trails, after careful drying of the skin, to be acid, neutral, and alkaline, in confused alternation.

Anatomy and chemistry being thus seen to be unfavorable to the derivasion of the sensible perspiration from the sudoriferous glands, let us now consider the testimony of physiology. All authorities have concurred in ascribing to *nervous influence* a direct and important share in the excitement of all kinds of perspiration. It would have been attempted to compensate for the absence of special nerves of the sudoriferous glands by vaso-motor action, had it not been observed that the perspiratory secretion was still maintained in a part which had been completely cut off from the general circulation. This surprising fact, however, seems to me to prove no more than that this secretion is entirely independent of the pressure and velocity of the blood-current. I cannot admit that *the occurrence of sweat has no connection with the circulation in any case.* Even supposing that a limb in which the phenomenon in question was displayed had been *absolutely deprived of blood and lymph* after amputation with the Esmarch bandage, still I should first have to be converted to a belief in the exisience of genuine secretory nerves, which would make it possible for *perspiratory fluid to be produced from the epithelium of the glands.* Until then, I prefer to believe that the surviving glandular epithelium was left, after amputation, floating in a sufficiency of lymph to permit a maintenance of the secretion, under maximal irritation, for a considerable period. Luchsinger does not assert in this connection what Haidenhain supposed to be the case with the epithelium of the salivary glands, viz., that the cells themselves are induced to secrete by nervous irritation. Yet only on this assumption is it possible to explain the production of sweat by the agency of the vaso-motors.

Hörchelmann and Ranvier's investigaations have resulted in the discovery of smooth muscular fibres between the tunica propria and the epithelium of the sudoriforous glands. Hitherto, no special office has been assigned to these fibres. I believe that they are intended to maintain a greater or less degree of tension of the glands, which tension more or less compresses the glandular epithelium. Under slight tension, the lymph-current washes out from the glands a secretion poorer in organic products; under strong tension, one laden with such products, and even with cellular substance. "Clammy sweat" is that which is secreted under maximal compression by the glandular elements, and, since energetic coöperation on the part of the sympathetic is requisite for such compression, it is not surprising that during the effusion of this sort of sweat the blood-vessels of the skin contract, and the mucous membranes become pale.

To this extent, therefore, I admit a considerable and quite specific participation of the epithelium of the convoluted glands in the production of certain kinds of sweat. But I cannot grant that *every sort of perspiration must be accounted for* in the same way. I consider it as yet an open question, to be decided by future investigators, whether the *profuse, watery, aud long-continued sweats* caused by vapor-baths and those produced by pilocarpin should not be regarded as derived from the capillaries of the excretory ducts, or of the pupillary body. These sweats are especially combined with a superfical cutaneous hyperæmia; they are promoted by a degree of heat which leads to vascular relaxation; in them, the activity of the sympathetic is diminished, and that of the vaso-motors brought prominently into play.

I believe that this supposition of the *participation of different organs in the perspiratory function* affords the only satisfactory explanation of all the various kinds of hydrosis, while not excluding the co-operation of other influences; on the contrary, it is physically necessary, in carrying out the theory, to suppose that an especially powerful flow from one of the sources of sweat sustains and promotes that which may be furnished by another, since in all cases the secretion is poured forth upon the surface through the same capillary channels. Above all, it provides an easy solution of that primary puzzle, *cold sweat*, and even of clammy sweat; the increased alkalinity of forced sweats is accounted for by exhaustion of the glandular constitutents, leaving behind the epidermal; long-continued repose of the glandular epithelium permits a ripening of its specific products—fat and pigment—which are plentifully supplied to the perspiration. The problem presented by *a dry, hot skin* is the only one which remains unsolved. Here, pathological observations must come to our aid, and we are fortunate in being able to avail ourselves of Bouveret's copious and carefully-arranged monograph on the subject of Morbid Perspiration (Paris, 1880). I have more particularly in view his *position that hyperhidrosis* is, almost to a certainty, connected, on the one hand, with *irritation of the cerebro-spinal nerves*, and, on the other, with *paralysis of the sympathetic.* Every case of excessive perspiration of peripheral origin may undoubtedly be traced to one or the other of these causes, although it is well known that the converse does not universally obtain, *i. e.*, cerebro-spinal irritation or paralysis of the sympathetic is not uniformly accompained by sweating, but is often associated with anhidrosis.

Although the connection between the above-mentioned phenomena is firmly established, yet conditions necessarily arise which render them in many cases inoperative, and these conditions are not yet precisely determined.

The sweat-producing influences proceeding from the *nervous centers* are involved in still greater obscurity than those which operate peripherally. Experiments on the lower animals have given no results which can be brought into correspondence with pathological facts. But these latter sometimes affords us hints which partially compensate for the lack of precise physiological indications. Thus, if it be asked, Are the profuse sweats which occur so often in the course of acute meningitis signs of an irritation or of a depression of the cerebral force? we may reply that it is *not irritation*, but *inactivity of the brain* which, as in the cases of sleep and coma, causes the disposition to perspire.

As to the relations between the circulatory and secretory influences in the production of sweat, the real problem here is to determine the causes of their *complete disconnection*, as it is sometimes observed in diseased conditions, while yet, generally, hyperæmia and perspiration go hand in hand. The most familiar example of this disconnection is exhibited in *intermittent fever;* but, furthermore, all such disorders as pyæmia, and other fevers from absorption, in which the bodily temperature rises and falls with great abruptness, belong to the same category. In them, the skin, at the height of the pyrexias is hot, turgescent and strongly hyperæmic, but absolutely dry; it only begins to sweat at the approach of defervescence, and prespires the more freely the more rapidly the fever declines. We find this symptom (outbreak of sweat accompanying defervesence), in a less pronounced degree, in the most-varied forms of fever. Conversely, there is a well-marked correspondence between high fever, heat of the skin, and vascular congestion on the one hand, and the formation of sweat on the other, in those more continued, slowly rising and falling, slightly remitting catarrhal fevers, of which acute articular rheumatism is the type. Here there takes place, owing to the constant connection between fever and transpiration, a considerable reaction of the latter upon all the symptoms of the former, which imparts to these disorders their well known and peculiar character. I believe that the essential difference between the two kinds of fevers lies in the fact that the skin is heated *very rapidly* in the first, and *much more slowly* in the second. By noticing these features we obtain an important analogy with certain skin diseases, in which a similar observation may be easily made. In exanthematous affections where local cutaneous hyperæmia appears on an inflammatory basis, as particularly in erysipelas, no sweat occurs until defervesence of the affected portion of the skin sets in, and after the return of heat it is again completely absent. The same has long been known to be true of scarlatina. In both these diseases the general hyperpyrexia, of course, considerably increases the heat of the skin induced by the local inflammatory process. Aubert has found that in many simple erythemata the perspiratory function is not affected, or is affected in the direction of hyperhidrosis; while, on the contrary, many of the most superficial inflammatory processes are connected with anhidrosis. It is very probable that the *overheating of the skin* or of certain of its elements, which takes place in quickly rising fevers, accompanied by cutaneous inflammations, is what prevents the usual increase of sweat by heat. This effect I conceive to be brought about by means of a third factor, hitherto unnoticed, viz: *the expansion of the epidermis by heat.*

This expansion is familarly exemplified by the corrugated condition of the hands which is caused by immersing them in hot water, but still more unequivocally by the rapid formation of blisters under the application of dry heat. This would be impossible did not the momentary overheating of the surface give rise to a sudden and considerable increase in the volume of the epidermis. In the case of blistering from a burn, the *very high degree* of heat at once destroys the *elasticity* of the epidermis—just as by heating a piece of whalebone we can cause it to assume permanently any shape desired. Under a lower temperature, as that of a merely warm hand-bath, the epidermis retains its elasticity, and on cooling off at once returns to its former dimensions. Now there is a point within the epidermis at which the effect of an increase in its volume is greater than at any other—and this is *the fissure-like opening formed by the passage of the spiral canal of the sudoriferous gland through the basal epidermis — Oehl's* stratum lucidum. It must very easily happen, whether through a swelling of the epidermis caused by long soaking, as in chronic eczema, etc., or through its rapid overheating and expansion, that first of all this narrow slit in the stratum lucidum contracts until it becomes impermeable. This alone will account for the dryness of the skin in scarlatina and erysipelas, and in rapidly rising fevers; and the fact that contemporaneously with the subsidence of the local affections in the first named diseases, and with the decrease of fever in the latter, sweat again makes its appearance, is evidence to the same effect. Thus also we can explain the formation of blisters and vesicles on erythematous places, at the height of these complaints (scarlatina miliaris and phemphigoidea, erysipelas bullosum and vesiculosum). All these eruptions denominated miliaria or sudamina, which have hitherto been the subjects of such conflicting opinions in regard to their etiology, may be similarly accounted for, and this leads me to the final topic of the present discussion, viz: *the effect which altered ideas concerning the sources of the perspiration must have upon our judgments of certain skin diseases.*

First, as to the *südamina* (which I regard as identical with *miliaria alba* and *rubra*), it is known that they do not originate from the sweat after its effusion upon the skin, but that they make their appearance suddenly, over large extents of surface, along with profuse outbreak of prespiration. They correspond not to the sweat pores alone, but occupy portions of the spaces between them, often become confluent, and, moreover, clearly display a hyperæmia of the papillary body. He who derives sweat from the sudoferous glands alone must concede, with Hebra, from the spread of this eruption over every part of the surface, a general participation of the papillary body in its production. But to him who recognizes the important share which the latter takes in the normal play of the transpiratory function, sudamina are only the necessary result of profuse perspiration accompanied by great heat of the skin, and partial or complete closure of the sweat pores, a conception which, on clinical grounds, certainly deserves the preference.

Miliaria crystallina, on the other hand, consists of cysts formed in the spiral canal of the sudoriferous glands, and situated quite superfically in the epidermis. They do not coalesce, arise without heating the skin, and are due, not to a swelling up of the pores of the stratum lucidum, since they are located above them, but to an occlusion, however caused, of the external apertures of the excretory ducts. So slight is the inflammation accompanying them that the papillary body takes no part in the morbid process.

So also with respect to certain local hyperhidroses, especially *excessive perspiration of the feet*, nothing would be more wonderful than that we can cure this unpleasant affection so easily by astringent remedies, (alum, tannin, salicylic acid), or anti-eczematous applications (Hebra's ointment, powders for sprinkling), if it were actually a disease of the contorted sudoriferous glands, buried deep in sub-cutaneous fat; and no explanation is simpler than that which makes it consist essentially in a certain penetrability, as yet imperfectly understood, of the spinous layer of the normal tissue juice, whereby, even though appearing on the healthy epidermis, it closely approximates to eczema.

I venture to predict no slight revolution of ideas in relation to diseases of the sebaceous glands, especially the so-called *seborrhœa*. We are accustomed to attribute excessive lubrication of the skin to the action of the sebaceous glands. I can here only express my conviction that the oily, as well as the dry form of seborrhœa has nothing to do with the sebaceous glands. The former exhibits a pure hypersecretion of the sudoriferous glands, the latter a superficial catarrh of the skin, with formation of scales, which are more or less lubricated by the normal secretion of the same glands.

In *acne*, which essentially depends upon a pure keratosis confined to certain regions of the skin, the excretory ducts of the sebaceous glands are attacked by excessive cornification; the secretion of these ducts is demonstrably inclosed in sacs between the horny lamellæ, and yet the skin is always well lubricated, never brittle or eczematous. It is lubricated from beneath by the sudoriferous glands — a function which these glands would still be able to fulfill, even if, as is frequently the case in acne, all the sweat pores between the outermost horny layers were likewise obliterated. Every freshly caught sweat drop which contains fat, but is without large epithelial cells undergoing fatty degeneration, must be derived not from the sebaceous but from the sudoriferous glands.

I believe that I have now proved that the conception of the secretion of sweat as a process confined to the glands must be abandoned in favor of a theory more complicated, indeed, but more in accordance with actual relations—*the theory, namely, that the various organs take part in the performance of the prespiratory functions.* — P. G UNNA, *Schmidt's Jarbücher.— Jour. Cutaneous and Veneral Diseases.*

DESERINE AND OTHERS ON PERIPHERAL NON-TRAUMATIC NEURITIS. — Peripheral neuritis, occurring without any external injury, although by no means uncommon, has until recently attracted only little attention, and there is but very meagre information about it in the best text books on nervous diseases. It is, however, known that it may supervene under the influence of cold, lead poisoning, infectious diseases, such as small-pox, diphtheria, typhus, tuberculosis, and alcoholism. It also occurs as a complication of several diseases of the nervous centres, and causes, according to the function of the affected nerve, either severe symptoms in the sphere of sensibility, or various trophic disturbances, such as vesicular or bulbous eruptions, indurated œdema, and perforating ulcer. It would appear to be the immediate cause of acute bed sores, supervening after cerebral hemorrhage, etc., and there can be no doubt that it will soon be shown to have a considerable clinical and pathological importance. It has probably been overlooked, partly from preconceived ideas about the dependance of neuritis upon central changes, and partly because the alterations of the nerves are not visible to the naked eye, but are only seen when the parts have been stained and are microscopically examined. To the unassisted eye they appear perfectly normal, showing neither softening nor induration, œdema or any other change.

In examining cases of tabes—locomotor ataxy — it has often struck observers that there existed no apparent relative proportion between the symptoms in the sphere of sensibility observed during life and the lesions found in the posterior columns and nerve roots after death. The latter appeared, generally, very much of the same kind and degree, whether there had been much or little affection shown clinically. This led to the supposition that there might be, apart from the central lesion, likewise a peripheral one in the cutaneous nerves themselves.

As far back as 1858, Türck, of Vienna, who has been the pioneer in many investigations concerning the morbid anatomy of the nervous centres, took up this inquiry, but was led to negative results, as was also Vulpian, in 1868. Westphal was the first to discover, in 1878, atrophy of the cutaneous branches of the crural nerve in a case of combined posterior and lateral sclerosis. Pierret afterward drew attention to the dependance of the lightning pains, anæsthesia and certain trophic disturbances, upon a form of peripheral neuritis analogous to optic neuritis, which was seen in the terminal expansions of the cutaneous nerves, became less marked farther from the periphery, but was again discovered in the central districts of the affected nerves.

An excellent contribution towards the study of this question has lately been made by Déjerne (*Archives de Physiologie Normale Pathologique*, Juillet, 1883). He examined two cases of tabes in which there had been during life very marked sensory disturbances, of nearly the same degree of severity, yet where the examination of the central parts involved showed considerable difference in the degree and distribution of the morbid process. In one of them both Burdach's and Goll's columns were found throughout their whole extent changed into a fibrous tissue, with sclerosed vessels; while in the other the lesion had barely commenced, and there was still plenty of healthy nerve tubes present. The appearance of the posterior roots correspond to that of the posterior columns, and one would, therefore, have been tempted to conclude from the *post mortem* appearances that there must have been in one of the cases a considerable, and in the other hardly any, affection of sensibility. As a matter of fact, however, the symptoms had been nearly the same in both. Déjerine, therefore, examined the cutaneous nerves of those parts which had been particularly affected during life, with osmic acid and picro carmine, and found them in a state of neuritis, while the more central parts were quite healthy. It is, therefore, shown that the Wallerian law, although unassailable as far as it goes, does not apply to all clinical cases.

Osmic acid had scarcely produced any effect on these specimens, and, after coloring with picro carmine and dissociation, there appeared hardly one or two healthy nerve tubes in a specimen containing about thirty. The others were reduced to empty sheaths, but the intertubular connective tissue showed no alteration. During life there had been a considerable degree of anæsthesia, retarded transmission of sensation, and diminished faradic excitability.

Pitres and Vaillard (*Archives de Neurologie*, March to September, 1883) have gone more fully into the matter. According to them the histological alterations in idiopathic neuritis resemble very greatly those known as Wallerian degeneration, viz; such as occur after experimental section in the peripheral end of the nerve. In the beginning there is a swelling in the nucleus of the fibres and segmentation of myeline, and ultimately, complete destruction of the axis cylinder and the medullary sheath. In both cases the destroyed fibres may become regenerated, or at least replaced by freshly formed fibres. Nevertheless, the two pathological conditions are not identical. Idiopathic parenchymatous neuritis has not the regular uniform course of Wallerian degeneration, but it is sometimes slow, and at other times very rapid in its course. It may, moreover, spread from the periphery to the centre, which never occurs in Wallerian degeneration.

The authors describe five different types of inflammation, into the particulars of which we do not think it necessary to enter, more especially as they seem to us to be only different phases, as far as intensity is concerned. They have found it occurring in cases of hemiplegia from cerebral softening, after fracture of the skull, in herpes zoster, leucocythemia, and tabes. In one of the latter cases arthropathy was associated with it.

The pathology of arthropathies and other trophic changes supervening in the course of tabes, such as spontaneous fracture, perforating ulcer, falling out of nails, indurated œdema of the skin, and eruptions, is still very obscure. At the time when Charcot first described these affections, the integrity of the large ganglionic cells of the anterior cornua of the gray matter had just been shown to be necessary for the proper nutrition of the muscles. From this it was concluded that in cases of arthropathy the anterior cornua must be at fault, and a few cases seemed at first to confirm this idea. Soon afterward, however, contradictory facts were observed, and that theory has now been given up. Moreover, it would be difficult to understand why arthropathies should not be common in infantile paralysis or progressive muscular atrophy, in which those cornua are notoriously affected. On the other hand, artropathy is not habitually connected with muscular wasting. It is, therefore, much more probable that the joint affection is owing to local changes in the peripheral nerves.

Such cases have been observed by Pitres and Vailland in several cases of tabes. In one of them degeneration was found in the sciatic, the posterior articular, and the muscular nerve belonging to the same, characteristic swellings, etc., having been observed clinically in the corresponding joints. In another case they found changes in the dorsal branch of the musculo-spiral nerve at the lower portion of the forearm, and in all the collateral nerves of the first finger; to which corresponded clinically deformation of the metacarpo-phalangeal joint of the first finger. In the same case there was found, in the lower extremities, atrophy of nerve fibres in the plantaris internus, and the collateral internal and external nerves of the big toe, to which during life had corresponded perforating ulcer in the palms of the feet, and dystrophia of the toe nails. Again, in a case of Pott's disease, with compression-myelitis, where bed sores had formed on the buttocks, the trochanter and sacrum, atrophy of the nerve fibres supplying these parts was discovered.

It appears probable that the central lesion is not the immediate cause of this peripheral neuritis, but rather a predisposing condition, and that other influences, such as pressure, etc., are likewise required for its production. The inflammation affects only the nerves, and the connective tissue remains generally healthy. Only upon total destruction of the nerve tubes does any overgrowth of connective tissue appear to take place. This form of neuritis is distinguished from Walleran degeneration chiefly by its different course. The latter follows a regular evolution, the phases of which take place at perfectly definite intervals and in a fixed manner which has been determined by experiment. Idiopathic neuritis, on the other hand, may last a few hours or days or an indefinite time, and has an ascending centripetal tendency. There is no continuous alteration between the cord and the altered nerves, the larger nerve trunks being generally healthy.

All forms of peripheral neuritis do not give rise to trophic or sensory symptoms. These latter occur only when the proportion of altered nerve fibres is a considerable one, and vary according to the functions of the affected fibres, as well as to the degree of change which has taken place in them. Acute bed sores, ulcerations without tendency to heal, herpetic, bulbous and pemphigoid eruptions, perforating ulcers of the foot, chronic œdema, arthropathy, and dystrophy of nails, together with local anæsthesia, are the principal symptoms.

Pierret considers it probable that the corpuscula tactus in the skin are primarily affected in these cases, and that the neuritis is a consequence of this alteration; but this is not based on actual observation, and is merely a theoretical supposition. Langenhans, who has recently examined the corpuscula tactus in six tabetic patients, in whom considerable alterations of cutaneous sensibility had been observed during life, has found those structures perfectly normal. The alteration of the nerves is, therefore, independent of their trophical centres and terminal expansions, and must be looked upon as a true peripheral affection.—*London Medical Record.*

PROGNOSIS IN HEART-DISEASE—MITRAL INSUFFICIENCY OR REGURGITATION.—An abstract of a Lecture Delivered before the Harveian Society of London, BY W. H. BROADBENT, M. D., F.R.C.P. Lond, *and published in the British Medical Journal.*

The evidence of regurgitation through the mitral orifice is a systolic murmur in the region of the apex, usually heard also to the left of this spot towards the axilla, and often in the left interscapular space, sometimes upwards round the outer side of the mamma. The only murmurs likely to be mistaken for that of mitral regurgitation are a systolic aortic murmur conducted to the apex, a tricuspid regurgitant murmur, and a spurious murmur produced by compression of the edge of the lung. These sources of error being eliminated, a systolic mitral murmur means regurgitation from the ventricle into the auricle.

The causation, however, of mitral incompetence is most varied, and the range of possibilities extreme.

There are, first, the so-called hæmic murmurs of anæmia and chlorosis, of convalescence from acute disease, of some cases of chorea and of cardiac weakness. It is to these that Dr. McAlister's explanation of mitral reflux, without disease of the valves, applies. The complete closure of the orifice is not effected merely by the floating out of the valvular curtains, but is aided by a great constriction of the orifice, which is part of the ventricular systole. When this is imperfectly performed, the valves do not quite guard the opening, and allow regurgitation.

There is no direct relation between the degree of anæmia and the occurrence of mitral regurgitation; there may be no reflux in the worst cases of anæmia of whatever kind. The state of the blood constituting a predisposition, the immediate cause may be over-exertion, or perhaps climate, or worry. But a direct cause of dilatation of the left ventricle exists in many cases of anæmia, viz., unduly high arterial tension from resistance in the peripheral circulation. This may not only give rise to temporary insufficiency of the mitral valve, but but may possibly be the cause of the organic change in it, which Dr. Goodhart has shown to be a probable result of anæmia in many instances.

This "curable mitral regurgitation," borrowing the term from Dr. George Balfour, can usually be recognised by means of the history and condition of the patient, but the character of the murmur may be of assistance; it is usually smooth, accompanies the first sound, instead of extinguishing or replacing it, and not unfrequently it is post-systolic rather than systolic. It is sometimes said that a hæmic mitral murmur is not conducted towards the axilla; but this must not be altogether relied upon.

A temporary mitral regurgitation is not uncommon after acute disease, and may follow acute rheumatism, when it is liable to be taken for the effect of endocarditis.

A mitral systolic murmur during chorea may be either the result of functional derangement or of organic disease of the valves.

In middle age, or in advanced life, mitral regurgitation, without actual change in the valves, is common, and may be induced suddenly by overstrain or illness, or come on insidiously. Sometimes the orifice is of the normal size, at others enlarged; and it is often impossible to say what its exact condition is, or to distinguish between such cases and others in which the valves are damaged. When the orifice is unduly large, there will also be dilatation of the ventricle. The character of the murmur, and especially the presence or absence of the first sound, may be of great service in deciding whether the reflux is considerable or small in amount.

Disease of the valves may be the result either of acute endocarditis, usually rheumatic, or of chronic inflammatory or degenerative change.

The kind and degree of deformity may vary greatly, and we have to endeavour to see our way to the prognosis under these diverse conditions. In some cases, the disease will prove fatal in a few months or years; in others, it may exercise little influence on the health or life. In two instances mentioned, mitral regurgitation had been ascertained to exist twenty years since in patients still living and well; and in another case, repeatedly examined within the last three years, the patient had been condemned to life-long inactivity after acute rheumatism thirty-five years ago, but was still, at the age of sixty-four or sixty-five, doing strenuous work, a mitral murmur having been known to be present all this time. It is very common to meet with mitral regurgitation at and after the age of seventy, but its duration cannot be ascertained. This form of disease is very frequent among the out-patients of hospitals, and sends into the wards numerous cases of dropsy which recover. It is, in effect, not a deadly kind of valvular affection, and is probably less serious than aortic stenosis, which is placed lowest in the scale of danger. It is not simply that, in a large proportion of cases, the valvular change is comparatively slight; even considerable disease may be long survived, if not progressive.

The first inquiry will be as to the signs and symptoms by means of which the amount of regurgitation my be estimated.

In some cases, the character of the murmur affords much information. When it is not conducted much beyond the apex, and is not heard in the back, especially when the first sound of the left ventricle is not lost, but is still audible at the apex; and particularly when the murmur does not begin with the first sound, but follows it at a brief interval *i.e.*, is postsystolic, the leakage is usually inconsiderable. Care must, of course, be taken not to take the soft short murmur of a gaping orifice and a week heart as an indication of slight mischief, and not to mistake the short sharp first sound of mitral stenosis for a normal left ventricular first sound. Mitral systolic murmurs are often musical, and a musical note would seem to imply a narrow chink and small regurgitant stream; but observation alone must determine the significance of any particular kind of murmur.

For further evidence, the effects of regurgitation through the mitral orifice must be followed. The first of these will be distension, and then dilatation of the left auricle; but, from the deep-lying situation of this chamber, an early stage of enlargement is not easily made out. But the obstruction to the entry of blood into the auricle from the pulmonary veins will give rise to increased pressure in the pulmonary artery, audible evidence of which will be accentuation of the pulmonary second sound. It is not easy, however, to define the degree of intensification of this sound, which must be accepted as proof of obstruction at the left side of the heart; especially as obstruction may arise in the pulmonary capillaries. From the increase of pressure in the pulmonary artery, another effect follows, hypertrophy and dilatation of the right ventricle, manifested by displacement of the apex to the left, and undue impulse of the right ventricle. But the effects do not end here; the pressure maintained in the left auricle must be such as to afford resistance to the return of blood from the ventricle; and must, therefore, in extreme cases, almost equal the pressure in the aorta. Such pressure must, during the ventricular diastole, drive the blood violently into this cavity, and act as a dilating force, and dilatation will involve hypertrophy. The situation, then, of the apex-beat will be the resultant of hypertrophy and dilatation of two ventricles and the volume of the heart, as a whole, will be greatly increased.

These changes, the result of mitral incompetence, becomes for us its measure. A systolic mitral murmur, without any of the signs enumerated, and without symptoms, is not attended by much regurgitation, and is not a source of present danger; unless it marks the beginning of progressive mischief, it may be disregarded. As the indications of pressure in the pulmonary artery and of changes in the heart increase, we infer increase in the amount of reflux, and look for diminished stability of the compensation, and expect less power of regaining a working equilibrium if it is once overthrown. These statements are of course subject to the qualifications enumerated in the first lecture.

At the risk of being tedious, one more qualification must be added. It has been pointed out how the right ventricle comes to the aid of the left by maintaining a degree of pressure in the left auricle which resists the reflux through a gaping mitral orifice. The resistance must, when the barrier of the valve is withdrawn, be greater than the pressure in the arterial system. Everything depends, therefore, upon the resistance in the capillaries and the arterioles, and this varies greatly in different conditions. If this be considerable, the arterial tension is high, the backward pressure on the auricle and pulmonary veins is great, and the demand upon the right heart is heavy — all circumstances tending to the production of dilatation and hypertrophy. If, on the other hand, the arterial tension be low, the conditions are reversed. In the case mentioned, of mitral regurgitation known to exist for thirty-five years, the pulse was extremely soft and short; and as there were at one time disquieting symptoms—a sense of constriction of the chest on slight exertion, and a liability to slight fainting attacks—it was feared that the heart was failing. The family pulse, however, is of extremely low tension, and to this the patient owes, in part, at least, his immunity.

The pulse of mitral regurgitation has still to be considered. Its characteristic is irregularity both in rhythm and force, which in advanced cases is extreme, no two beats being alike. This irregularity, however, is not confined to mitral regurgitation; it is met with in some instances of dilatation of the left ventricle without leakage of the valves, and may be independent of all structural change. Its causation is not very clear, but it is possibly due to the varying respiratory pressure affecting the pulmonary veins and left auricle.

Up to this point it has been assumed that the compensation established has sufficed to neuteralise, in a great measure, and under all ordinary circumstances, the effects of the valvular imperfection; but in many instances, this is imperfectly accomplished, and the patient is short of breath on comparatively slight exertion, is subject to cough, and presents habitually evidences of venous stasis. The deficient compensation may result either from the excessive amount of the regurgitation, or from a failure on the part of the heart to respond to the call for a structural change; and it would be a matter of extreme difficulty to decide between the two on a single examination, especially in the presence of complications, but observation extending over a considerable period, or a full and accurate history, would usually guide to an accurate conclusion. In either case, the leading prognostic indication would usually be the degree of derangement of the circulation and the instability of such compensation as was present.

Even when compensation has been effectual for a time, if any considerable lesion of the valve exist, permitting a serious amount of regurgitation, symptoms will arise sooner or later, either from deterioration of the muscular walls of the heart with advancing years, or from gradual dilatation of the cavities under the continued strain, or under the influence of anæmia, or as a result of acute disease, especially of the lungs or kidneys; or acute dilatation may be brought about by over exertion, or excitement, or anxiety. These symptoms are the well known evidences of obstruction in the pulmonary circulation, and of damming back of the blood in the systemic veins. The shortness of breath does not require exertion for its production, but comes on in paroxysms without apparent cause, or is habitual, amounting to dyspnœa. The face and lips are dusky, the eyes watery, the hands cold and purple. There is much cough, and the lungs may be congested or œdematous. The urine is scanty, high colored, and loaded with lithates. A further stage of the symptoms is marked by the appearance of dropsy, which may at first be represented by slight œdema of the feet and ankles, which comes and goes, but later ceases to subside, and extends up the legs. As the dropsy advances, the respiratory distress becomes more painful; the patient can no longer lie down, and, in aggravated cases, must sit in a chair or on the edge of a bed, so as to let the legs hang down. Sleep is almost impossible, and the short snatches obtained are disturbed by frightful dreams, and the patient wakes in an agony of dyspnœa and alarm. Unfortunately, the paroxysms are usually worst during the night.

When dropsy is present, or severe pulmonary complications, the prognosis depends mainly on the question whether the symptoms are the direct result of the state of the heart, or have been precipitated by some disturbing influence, such as a chill, or exposure, or fatigue, or anxiety. If no adequate exciting cause can be traced, and due care and caution have been exercised, it is not probable that treatment will reverse the fatal tendency. If the setting in of severe symptoms be explained, then the degree of antecedent dilatation and hypertrophy will furnish us with the important prognostic information already set forth.

As has been said, cases of dropsy from mitral regurgitation very often recover in hospital. The patients, belonging to a class the members of which have to earn their bread, must work hard and undergo exposure, and are frequently subject to hardship and privations. It is under such unfavorable influences that the compensation breaks down, and the reversal of these is often of itself sufficient for recovery. Similar results are furnished by private practice, examples being related.

On the other hand, a gentleman of strong build, who had suffered very little inconvenience from mitral regurgitation, established fourteen years before, but in whom extensive dilatation and hypertrophy indicated considerable reflux, began, after a little overwork, to suffer from cough and dyspnœa, which was soon followed by œdema of the legs, and the equilibrium, thus easily overturned, was never regained.

THE MENTAL CONDITON OF CERTAIN DIABETICS.—In some subjects of diabetes, states *Le Practicien*, certain changes in the moral nature are so marked as to point to a correct diagnosis before an examination of the urine has been made.

A young man who, in consequence of this disease, has lost his virile power, will state the fact of his impotence to his physician with a sort of indifference very different from the anxious fear displayed by the hypochondriac under like circumstances. At a more advanced stage of the disease, when the quantity of sugar in the urine is considerably augmented, the mental state changes. The patient becomes sad, and is the prey of hypochondrial forebodings, His character changes; from being free and open-hearted, he becomes morose and moody, speaks but little, and smiles less.

He becomes parsimonious, and tries to cut down the expenses of his household; begins to keep exact accounts, calculates his resources, and declares that he is ruined, and that his family will die in the poor-house. The man of middle age, who, without apparent cause, and without exhibiting any other mental disturbance, becomes all at once avaricious, and presents delusions of rapidly approaching financial ruin, is, most frequently, a diabetic. If these melancholy forebodings continue, and if, on examination, the presence of sugar in the urine is established, the chances are that the patient will end his life by suicide. In the latter stages, after the disease has existed for some length of time, still another mental condition is noted. The patient is lazy, and wants to be let alone; he will spend hours sitting in his armchair, or lying on his lounge in a state of complete mental and bodily inactivity; his mind is clear, and his intelligence is unimpaired, but he is apathetic, he has no desire to walk or to talk, and seeks no occupation. Later, while preserving all his mental faculties intact, he begins to indulge in soliloquy, and relates incidents and recalls old memories to himself in an undertone. Finally, he falls into a state bordering on marasmus, and is carried off usually by that most grave of the complications of diabetes—pulmonary phthisis.—*New York Medical Times.*

MISCELLANY.

FLOGGING IN SYDNEY.—Two medical gentlemen, from professional reasons, who were present at the administering on Saturday last of the flogging to the four men who so richly deserved it, have given us their impressions. They express the opinion that, the necessity of corporal punishment being admitted, the object of the authorities should be to inflict as great an amount of physical pain, with as little proportionate injury as is possible. They believe this might be best done by causing the lashes to be given with due deliberation, instead of being hurriedly administered, as on this occasion, the whole punishment of twenty-five lashes being got through in considerably less time than three minutes. Were a regulation made that there should be an interval of thirty seconds between each stroke, the punishment would be unutterably more severe, without causing any more injury to the man flogged, and with less shock to his nervous system. It would also bear a more just relative proportion to the time during which the prisoners' victim had suffered under the assaults which resulted in their conviction. On this occasion the whole of the lashes were given by one officer, and toward the end, in consequence of his tired arm, many of the strokes were very feeble. It was most evident that for the proper administration of the punishment two flagellators are necessary, who should give a dozen strokes each, alternately. To those who have witnessed flogging, as formerly practiced in the army and navy, the punishment appeared absurdly lenient, blood having been brought in one case only, and in this but very slightly, while in military and naval punishments it generally ran pretty freely. No one can possibly believe that these larrikins deserve greater consideration or less severity than a soldier or sailor punished for drunkenness or insubordination.

They also think that the lashes are administered too much on one spot, and that they should be distributed more generally over the dorsal region, so as to produce more superficial and less deep injury. They suggest that half the punishment to adults should be administered on the buttocks, so that for the next fortnight or so the men flogged would be in such a state as to prefer standing to sitting, thus advertising their punishment, and be exposed to the ridicule of unsympathizing companions. The short term of imprisonment, and their consequent liberation before the effects of the lash have disappeared, is a good thought on the part of the Stipendary Magistrates who ordered the infliction.—*Australasian Medical Gazette*, *January* 15*th*, 1884.

IN THE *North American Review* for April Judge J. A. Jameson discusses the question, "Shall Our Civilization be Preserved," pointing out the means that are at hand for withstanding the various agencies, physical, moral, and intellectual, which threaten to overturn our existing civil and social institutions.. The Rev. Dr. Phillip Schaff gives a sketch of the "Development of Religious Freedom." Dr. Felix L. Oswald writes of "Changes in the Climate of North America," with special reference to the increasing frequency of disastrous floods. Prof. C. A. Eggert offers a "A Plea for Modern Languages" in the higher education; and Julian Hawthorne discourses of "Literature for Children." Finally, there is a discussion of "Recent Criticisms of the Bible," by the Rev. Dr. R. Heber Newton and the Rev. A. G. Mortimer.

In Memoriam.

DEATH OF RICHARD WESTROP SAUNDERS, M. D., M. R. C. S., VICE CONSUL OF ITALY. — After a long and painful illness, borne with true resignation and Christian fortitude, Dr. R. W. Saunders, Vice Consul of Italy at Cincinnati, has passed across that mysterious border land that separates poor mortality from life eternal.

Although his death was not unexpected, the news of his demise will be received with universal sorrow and deep regret by the many friends who appreciated his sterling worth and fine manly qualities. Especially will this feeling of grief be manifest among our Italian and French citizens, with whom he was universally popular and ever well beloved.

Dr. Saunders came of a very old and distinguished English family, and was related to some of the most prominent personages in Great Britain, Lord Childs, Secretary of War under Gladstone's administration, being his cousin, and General Wolsley, commander in chief of the English army in Egypt, a distant kinsman.

Dr. Saunders was born in Bologna, Italy, in 1835, of English parents, his father being a very distinguished surgeon. The Saunders family afterward moved to Florence, where the subject of our sketch attended a French school, until his seventeenth year, when following the wishes of his father, as well as his own tastes and inclination, he entered the University of Pisa, where he received a classical course, finally graduating in the department of medicine and surgery with high honor. From 1856 to 1858 he studied in the hospitals of Vienna, Paris and London, taking another diploma in the last named city, along with the highly coveted medical degree of member of the Royal College of Surgeons. In 1858, after a competitive examination, he gained an appointment of surgeon to the British army, and was ordered to Fermoy, near Cork, Ireland. His stay at this point was brief, as he was shortly ordered off to India. He remained in the far off East for nearly four years, attending to the sick and wounded of the army at numerous stations, including Calcutta, Bengal, Benares, Allahabad, Futtighur and Cawnpore, being stationed at the last named point during the great Sepoy rebellion. He also did service at Alexandria, Cairo and Suez, Egypt, and Aeen and Ceylon. While in India he came very near dying of swamp fever, and never fully recovered from the effects of the attack. When convalescent from this illness he was placed in charge of a hospital ship of invalid soldiers, sailing for England via the Cape of Good Hope, and stopping for some time at St. Helena, where he had many friends among the French officers. He finally landed in England after a voyage lasting 119 days.

His stay in the mother country was short, however, as he was soon ordered to Southampton, and set sail for Halifax, North America, with the British troops sent over on account of the Trent affair. In 1862 he was ordered to Montreal with the Rifle Brigade, and remained until 1864, when he married an American lady, the youngest daughter of the late Colonel James Taylor, of Newport, Ky., and in 1865 resigned his position and came to this city to practice surgery, being for a time the partner of that most distinguished Western surgeon, the late Dr. George C. Blackman, professor of surgery to the Medical College of Ohio.

Tiring of surgery, he dissolved partnership with Dr. Blackman, and for several years practiced medicine, his practice being largely among the Italian and French population of this city. But his health, never really good after the stroke of jungle or swamp fever in India, could not stand the demands made by a constantly increasing business, so, much to his regret, but acting on the advice of the late Dr. Nathaniel Foster, he went abroad, hoping to regain his strength. This hope was never realized, and some six years ago, he entirely retired from practice and accepted from the Italian Government the position of vice consul for Italy. His relations with the Italian Government were always intimate and confidential. In fact, he had received from Italy one of its orders of knighthood, for saving the life of the crown prince of Tuscany from assassination on a certain occasion.

Personally Dr. Saunders was a loveable, quiet gentleman, a man without an enemy in the world; a fine botanist, ever cultivating the flowers in his beautiful garden at Newport, and he was never weary of talking of Italy and Florence, the land of the sweet violets he loved so well. A lover of musical and dramatic art, he was on terms of intimate personal friendship with all the noted Italian and French singers and players visiting these shores. Brignoli and Salvini were his regular correspondents.

The linguistic acquirements of Dr. Saunders were something wonderful. He spoke Italian, French, German, Spanish, and Hindostanee fluently, for he had been a great traveler, crossing the Atlantic Ocean no less than thirteen times.

In social circles Dr. Saunders will be sadly missed, for he was a welcome visitor, and a most charming host, ever lavish in dispensing a generous hospitality. Born a gentleman, he lived a gentleman and died a gentleman, with a smile on his lips, and the deep peace of conscience which comes at last to all who have fought life's battle bravely and honestly. The world is brighter and happier that such men have lived.

To him the most celebrated of Arlosto's lines are applicable: "Natura il fece, e poi roppe la stama."

Dr. Saunders leaves a wife and four children—one son and three daughters—who, in their loss of a devoted husband and kind father, will have the heartfelt sympathy of many friends. T. C. M.

DR. J. H. BUCKNER resigned his professorship in the Toledo Medical College last December and is no longer connected with the school. Reports have been circulating that he spends a part of his time in Toledo, but he has never been there except during six weeks of last summer's session.

ACADEMY OF MEDICINE.—At the next meeting, March 24th, Dr. P. S. Conner will report a case of "Thrombosis of the Femoral Artery." Dr. Jas. T. Whittaker will report a case of "Acute Parenchymatous Nephritis."

The Anti-Septic Method of Dr. Déclat.

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Original Articles.

A CASE OF OOPHORITIS.

By Horatio R. Bigelow, M.D., Washington, D.C.

On December 12, 1883, Miss H., aged 33, came to me with the following history: *Age at which menstruation appeared*, 13 years. *Duration of present illness*, 11 years. *Symptoms during its course*: Pressure and acute pain inside left leg, extending up as far as the knee; intensified while walking or standing; constipation; pain in back opposite to pain in left ovary; no pain in right ovary; anomalous and wandering neuralgic pains in head and shoulders; despondency; inability to concentrate the mind; general feeling of malaise; rectal and vesical tenesmus; extreme nervous irritability; insomnia; great pain just before and for first day of menstruation; menses normal in quantity; skin hot and dry; has been in the habit of taking opium, until she now consumes two grains of the crude drug daily and a much larger amount during her regular monthly sickness; has been under quite constant professional treatment for eight years, this consisted of tonics, pessaries and blisters.

Condition at Time of Examination (Notes taken from Case Book, December 12th): *Menstruation*, next period January 10; amount normal; dark in color at first; pain great and lancinating. *Leucorrhea*, character like white of egg; amount slight; almost always present; pain, ovary (left), back and down inside of left thigh. *Locomotion*, standing very trying; walking brings on pain.

Physical Signs: 1. *Touch.* Uterus enlarged and retroverted; left ovary enlarged, tender and slightly prolapsed; slight vaginismus. 2. *Speculum.* Nothing. 3. *Probe.* Some pain at fundus. *Urine.* Normal in amount and in chemical reaction. Microscope shows nothing. *Diagnosis.* Oöphoritis; retroversion uteri; slight prolapse of left ovary; extreme nervous irritability; opiism.

General Remarks. Patient is thin and despondent; unable to assimilate her food; complains of constant nausea; vomits frequently; opium quiets, but does not induce sleep; has no appetite and eats sparingly.

Uncomplicated oöphoritis is a very unsatisfactory disease to treat, but an oöphoritis conjoined to opiism is a condition of affairs lacking every element of encouragement. Unquestionably the first thing to do was to conquer the opium habit, and in doing this the secretions, for so long a time locked up, would resume their natural functions, digestion would improve, insomnia would vanish, and the system generally would profit by the change. Then, as health, or a measure of it, supervened upon the withdrawal of the stimulant, and as the confidence of the patient in her physician became established, I proposed to turn my attention to the ovary, and, last of all to the uterus, which I should restore by the postural method, holding it in place by medicated cotton tampons.

I put the patient to bed, having her under the constant surveillance of competent nurses. I *stopped the opium at once.* As tonics I used phosphorus, nux vomica and cinchona. Rest was obtained by the bromide of sodium and chloral. A tepid bath was given daily, and the entire body was *kept* well oiled. The reaction was tremendous. Every secretion seemed to be set loose. Large quantities of urine were passed. There was constant sweating and diarrhea. Hallucinations and delusions were occasionally present. Food was regurgitated upon ingestion. Still I persisted, adding a daily application of the general current (Faradic). For thirteen days she was fed upon nothing but Beef Peptonoids, beginning with a teaspoonful every two hours and gradually increasing the quantity. This most excellent preparation I have found of great service by reason of its richness in nitrogenous principles. At the expiration of two weeks, that is, on December 27th, she began to relish and digest her regular meals; her functions were exercising normally, skin soft and moist and sleep natural. From December 28th to January 9th. she had massage, by a thorough maneure, three times a week; the general Faradic current daily, and Galvanism to left ovary (10 cells) twice a week; the left ovary was also kept well painted with iodine; tonic changed to the syrup of the iodide of iron and glycerine. On January 9th she had considerable premonitory pain, which was controlled by compound tincture of valerian and compound spirits of ether, and on January 10th she commenced to menstruate. During this period, which lasted six days, she suffered less than upon any similar occasion for a long period of time. From January 17th, up to the present time of writing, she has carried out the following general plan of treatment: On Mondays and Fridays she takes a Turkish bath; on Tuesdays, Thursdays and Saturdays, she has general massage, followed by a short seance of Galvanism to left ovary. The uterus is treated by Campbell's method, and is held in situ by cotton tampons saturated in a mixture of iodoform, glycerine and eucalyptus globulus. A daily passage of the bowels is insured, and her diet is regular and rich in nitrogenized matter. All clothing is suspended from the shoulders and corsets are *proscribed*. She takes daily exercise, her walks being confined to the sunny side of the street. She is gaining in flesh. Her menstruation of February was accompanied with very little pain, and she is in all respects doing remarkably well.

During the last three or four years it has fallen to my lot to be consulted in quite a number of cases of oöphoritis. In six instances there were objective symptoms that pointed to pyo-salpinx. I do not propose now to put myself upon record in any polemical discussion as to the merits or demerits of Battey's operation. Spaying is always a matter of very serious consideration, and it becomes doubly so in those patients who happen to be within the pale of kinship. The temptation to its general adoption by gynecologists is a great one—younger men will practice it for the sake of reputation and statistics, and older men as a plausible way out of a puzzling dilemma. However little it may affect the child-bearing function, already rendered practically impossible in women suffering with degenerated ovaries, and in however slight a degree it may influence the feminine graces, the fact remains that the woman will always feel that she has been deprived of a distinctive, integral factor in her sexual make-up. Except in especially aggravated cases I thoroughly believe in the efficacy of medicinal treatment.

If you can control your patient for a sufficiently long period of time—months, or even years perhaps—watching every symptom and meeting each emergency; if you regulate hygiene upon an intelligent basis, reduce congestion by appropriate treatment, remedy the dislocated uterus in such ways that the remedy may not be worse than the disease, if you do not cure your case you will at least render her life so bearable that she will never think of having recourse to surgical interference. I have never yet used a pessary in any of these cases complicating a displaced uterus, and I probably never shall if I continue to hold to my present way of thinking. Only in exceptional cases shall I use a pessary in any event, because I am firmly convinced that the whole theory governing its use is radically wrong; and in the same degree that I deprecate the indiscriminate use of pessaries, so I condemn the use of the sound within the cavity of the uterus for its restoration. I do not mean to affirm that there are not certain conditions in which the sound, in scientific hands, is of great avail; it is against its general use that I am opposed.

In looking back over the histories of my cases, one of whom has now been under observation for five years, I see no reason to regret the postponement of surgical interference. A most aggravated instance has now been under care for some years—a long period of time—but when weighed in the balance with the suffering that preceded treatment, it shall count as nothing. In this woman every painful symptom has been gradually alleviated; and while the steps to improvement have been almost insensible to herself, and while she has had much to discourage, she has the assurance now of a bright future, and with all the attributes of her sex untouched.

March 7, 1884.

REPORT ON OPHTHALMOLOGY.

Made to the Ohio Valley Medical Association, May Session, 1883, by

E. G. Alcorn, M. D.,

Chairman of Committee on Ophthalmology and Otology.

Considering the great importance and necessity of the organ of vision to human beings, it is not surprising that its diseases should have become, in the early history of medicine, an object of special study.

The numerous surgical operations which are performed upon the eye, from their minuteness, delicacy, and peculiarity, require an amount of dexterity and skill unsurpassed by any other branch of the healing art. The physiological and pathological changes *observed* by the aid of the microscope and the ophthalmoscope, have raised the treatment of its diseases from the domain of empiricism to that of a scientific system of medicine.

Since the introduction of the ophthalmoscope for the examination of the eye, by which the innermost recesses of the organ can be examined with as much accuracy as its external surface, ophthalmology has become such an attractive study as to absorb the attention of a large number of careful observers; their investigations, with improved means of research, have advanced the knowledge of eye diseases far beyond that of any other department of medicine.

Notwithstanding the advancement of this branch of medical science, the ophthalmological pharmacopia of many physicians is confined to three substances, *excellent in themselves*, but full of danger when indiscriminately used for all inflammations, viz: nitrate of silver, acetate of lead, and sulphate of zinc. Either one of these, with an occasional blister behind the ear or on the temple, is expected by many physicians to cure any eye lesion, and are therefore constantly prescribed, whether the disease be superficial or deep-seated. It is not an uncommon circumstance for patients to call on me who have been advised to use some of the above-named astringents for astigmatism and hypermetropia; these are grave mistakes.

Another very great mistake is made by many physicians in the use of the acetate of lead in corneal trouble, particularly where there is an abrasion or ulceration. The lead naturally adheres very firmly, and can only be scraped off imperfectly and with great difficulty; this I consider sufficient ground for objecting to the use of it. Any physician who thinks of prescribing acetate of lead in diseases of the eye, should see that there is no abrasion or ulceration of the cornea whatever.

I object to the use of nitrate of silver for the same reason that I object to the use of the acetate of lead, namely, the metallic deposit left on the cornea. I have known the nitrate of silver prescribed in almost caustic solution for conjunctival diseases, corneal ulcerations, iritis, glaucoma, acute choroidal inflammations, and even defects of refraction. Can any greater torture be conceived than the devoted attention of such medical friends of the family literally heaping coals of fire upon these sensitive organs, already burning out? "What agony!" the patients are forced to exclaim. "What cruelty!" must be the verdict of the better informed. Yet it is only a few years since the very best oculist was *forced to believe* that such heroic treatment of the eye was barbarous.

I well remember of hearing one of the first oculists of this country say to his class of 1868–9, that he always carried in his vest pocket a piece of the sulphate of copper, which was so invaluable in diseases of the eyelids that he would not be without it. The same professor recommended all the strong, astringent remedies that I have been condemning; but mark the change. At the same college the same professor above mentioned, in a lecture to the class of 1880–1, condemned, in the severest of language, any physician who would be guilty of using the same treatment that he had taught his class in 1868–9! Let it be understood that it is the *strength*, and not the drug itself, which is condemned in this report. With such instructions as we commonly receive from our schools of medicine in regard to the treatment of the eye and its diseases, it is not surprising to me that such grave mistakes are made by the general practitioner.

Let me ask, How many physicians understand how to make a scientific ophthalmoscopic examination of the eye when they leave college? I answer, It will not average one in every hundred graduates of this country. This broad assertion may not speak well for our schools of medicine, but I believe it can be made with perfect safety.

You will notice, in a few instances which I will give, the very great importance of being well versed in the use of the ophthalmoscope in treating diseases of the eye.

Only a short time since a patient was brought to me who had lost one of his eyes, he said, when a child; and two or three weeks before he was brought to my office he was struck in his good eye with a stone. He called in a good physician, who treated the case in a general way, trying to relieve the poor fellow, but to no purpose, and when brought to me he could merely discover that there was light. Upon examining the eye with the ophthalmoscope, I discovered the periphery of the lens lying across the pupillary space in a downward direction. Taking into consideration the length of time the lens had been dislocated, the severe inflammation which had existed, implicating the iris and the deeper structures of the eyeball, I informed the patient that I could not promise him very much from an operation now, but would operate and do the best I could for him. He left the office, saying he would think about it, but up to this time he has not returned.

That I may not be misunderstood in this report, I desire to say that I do not expect every general practitioner to be an expert with the ophthalmoscope, or to have an expensive set of trial lenses in his office, which he might not have an occasion to use once in a year, but that every physician should know enough about diseases of the eye not to make such great mistakes as are being made every day at some poor fellow's expense. Vision is very precious, and not be sacrificed because of any physician's lack of such skill and knowledge as may be easily acquired. We want a higher professional standard than this.

This criticism is not laid at the doors of those who make mistakes through oversight or in a conscientious manner; for we are all liable to make mistakes. For this reason I am strongly in favor of specialties; for I do not believe there is any mind able to grasp all there is in the science of medicine. The field is too large. I think that if we divided it up, and each made himself more familiar with his part, we would be of more real benefit to suffering humanity than the way it is to-day. In the following instance it will be seen how much ignorance sometimes creeps into our profession. and how much better it would have been had the physician understood the use of the ophthalmoscope, or had sent the patient to some one who did:

Not long since a man called at a certain oculist's office and wanted his eyes examined. On examination it was ascertained that his trouble was chronic iridochoroiditis. He was asked if he had been doing anything for his eyes, and said he had; that Dr. ——— had been treating them, and that he had suggested to the doctor that he go with him to the oculist for examination. "No," said the doctor; "I think I understand the eye as well as any d—d oculist, so I will not go." This case was being treated with nitrate of silver, which was the same he had been using all the time, so he said.

A further instance in which a better knowledge of the ophthalmoscope would have been of advantage to the physician was in a case of glaucoma, that the physician was trying to cure with a strong solution of sulphate of zinc. Had he possessed a better knowledge of the ophthalmoscope the patient would have been saved a great deal of extra suffering, which he was compelled to undergo by such treatment.

Now, let us look at some of the improvements which have been made in the treatment of diseases of the eye. Under this head the first thing that I shall notice will be *eserine*, from the fact that it is playing a very important part in the cure of eye diseases, taking the place of atropia to a large extent, which has been so much abused as an eye panacea. Eserine is antidotal to atropia in its action, consequently very important in office practice. When it becomes necessary to dilate the pupil for ophthalmoscopic examinations, instead of leaving the patient with widely dilated pupils, unable to read, avoiding the light, a drop of the eserine solution will counteract the action of the atropia, re-contract the pupil, and in a few minutes remove the unpleasantness arising from the previous excessive dilatation. But when the atropia solution has been used strong enough to paralyze the ciliary muscle, the dilating action of atropia is so much stronger and more persistent than the contracting influence of eserine that the latter must be used for several days before the action of atropia is entirely overcome. Until very recently it was thought there was no way of reducing the tension in glaucoma save that of iridectomy; but it is now known that eserine, used locally, will diminish the tension in glaucoma, and many cases are cured without the use of the knife. So much for the advancement made in the treatment of diseases of the eye. In corneal trouble we could not dispense with eserine; there is nothing better if properly used. The drug nearest akin to eserine is pilocarpin, which also contracts the pupil, but must be used four times as strong. While pilocarpin is not so active as eserine, its field of usefulness is wider, from the fact that it can not only be used for contracting the pupil, but also may be used internally to a good advantage. It is a powerful agent for equalizing the circulation and removing local congestion, consequently very valuable in acute attacks of glaucoma. It may be used, also, internally, with excellent results, in all cases of acute retinal, choroidal, iritic, or scleral inflammation. While speaking of new remedies, and the advancement made by eye specialists, I must mention homatropia as being one of the valuable remedies that had been added to the list of specifics. Homatropia possesses all the attributes of atropia without its intensity and persistency of action. It is the everyday duty of eye specialists to ascertain the irregularities of refraction, and often it is necessary to paralyze completely the intraocular eye muscles before the defect can be ascertained.

Atropia has been the remedy relied upon solely for this work, and has proved very effective in its action; but the great trouble with atropia is that for ten or twelve days after the introduction of a strong solution into the eye, vision is very much impaired, with an inability to use the eye for near work. In persons very susceptible to it the pupil will remain dilated for two or three weeks. The great annoyance from this long continuation of a dilated pupil can be easily understood when the patient, whose eyes have been examined, depends upon his eyesight for his daily bread. When duboisia was introduced as a mydriatic, it was a step forward over atropia; but homatropia is in advance of all other agents as a mydriatic; it acts promptly, and at the same time its mydriatic effects pass away so soon that the day after its use the eye is in a fit condition to be used for any business, the paralytic action having disappeared. Students, book-keepers, and clerks, who have but a day to spare, can obtain—thanks be to homatropia—all the benefits of a thorough examination of their eyes, and yet lose no time from their respective avocations. If they have the examination made Saturday, Sunday's rest prepares them for Monday's labors. This I consider quite an improvement over the use of atropia, in which case the patient would not be able to attend to business with any comfort for ten or twelve days.

I must not pass over the introduction of iodoform as one of the acquisitions of eye specialists. In corneal trouble it is a valuable adjunct to eserine. It can be freely used for weeks, and even months, without danger to the eye.

I desire, also, in this report, to notice the advancement made in eye surgery, as well as in the general treatment of that organ. It has been the custom of the profession (and is to-day strongly advocated by all oculists, so far as I know, save that of myself), that every eye lost by accident, or through sympathetic inflammation, should *be excised*, more particularly if the good one should in any way become affected through sympathy.

While taking a special course of lectures on the eye and ear at the Ohio Medical College, during the session of 1880-81, I was, for the first time, led to believe, that in ninety and nine cases out of a hundred, excision was altogether unnecessary in such cases as above mentioned. I do not mean to say by this that W. W. Seely, M. D., who was the Professor of Ophthalmology at the time, advocated anything but excision of the eyeball in eyes lost by accident or acute diseases; but the idea was suggested from circumstances which I shall not attempt to give in this report; suffice it to say, that I made up my mind to a new plan of procedure in the first case that presented itself, and it was not very long until I had the satisfaction of seeing the effect of the operation. The following statement will give the result of a few cases in which I have made the operation, without a single failure:

CASE I. J. C., janitor of the Union School, while breaking coal, was struck in the eye with a small piece of the coal. Dr. R. was called in, and, not thinking it very serious, he gave some direction in regard to the matter and the patient continued to attend to his duties about the building. The eye grew worse from day to day, so much so that the Doctor was compelled to keep him under the influence of morphine. At this time the Doctor called at my office and requested me to see the patient with him. I did so, and found him almost frantic with pain. The lost eye was in a state of acute inflammation, the cornea in a sloughy condition, and the anterior chamber apparently full of pus. Ectropium existed in the upper and lower lids, exposing the conjunctiva to such an extent that it looked as if the eye would burst from its orbit. The good eye was so badly affected from sympathy with the lost eye that I was fearful it was permanently injured. Chloroform was administered, and I proceeded to operate as I would in the old flap operation for cataract, as follows: The incision being made just within the cornea, section upward, I then took hold of the detached part of the cornea with the iris forceps, and made the lower incision. I removed at once the lens and vitreous humor, and filled the globe with yellow oxide of mercury and vaseline. This I renewed every day until the inflammation subsided. Under this treatment the patient made a good recovery, after which I inserted an artificial eye that moved so naturally that it took an expert to discern the difference. I merely mention this to show the advantage of corneotomy over excision.

CASE 2. A.B., a boiler-maker, while engaged at his work, was struck in the eye with a small piece of steel, which penetrated the posterior chamber. Some days after the accident, I was called to see the case in consultation with Dr. B., who was the attending physician. I found the lost eye in a state of acute inflammation, with the cornea in a sloughy state, with pus in both the anterior and posterior chambers. I removed the cornea, iris, lens and vitreous humor, as in the first case, and left him in the care of the Doctor, with instructions to use yellow oxide of mercury until the inflammation and ectropium entirely subsided, which was only for a few days, leaving the man with a fine stump for an artificial eye; the operation giving the same results that excision would have given.

CASE 3. C.M., was a man who had got into a general row and by some means the ball of the eye was ruptured. When I was called to see the case I found the eye in a state of acute inflammation, the vitreous humor protruding just back of the cornea, with a complete dislocation of the lens into the vitreous humor. The poor fellow was suffering intense pain. I proceeded at once to operate as in the other cases above mentioned, the result being the same.

The superiority of corneotomy (for this is what I shall call the operation) over excision, is this: When you excise an eye you have no protection to the end of the ophthalmic nerve, from which the ball has been severed; then again, you have no stump for an artificial eye, in case one is wanted; whereas, on the other hand, in corneotomy, you have the natural protection remaining, and, in addition to this, you have a stump for your artificial eye which gives you the same motion that you have in the good eye. I could mention other advantages over excision but I think those already mentioned sufficient.

Ophthalmologists, as a general thing, urge excision of the eyeball in all cases where the following symptoms present themselves: First, in cases where sympathetic irritation makes its appearance in the sound eye, with indications of producing permanent injury; Second, where there is violent pain in the injured eye, which cannot be relieved, and particularly if the vision is already gone; Third, when there is a foreign body in the eye, and the eye is sensitive, and is the seat of frequent exacerbations of inflammation; provided the foreign body cannot be removed. As mentioned above, these are conditions of the eye in which excision is recommended, and these are the conditions of the eye in which corneotomy is required and should be resorted to. The operation will give you the same result that excision does, with all the advantages above mentioned; and they are advantages over excision that should arrest the attention of every oculist who wants to see his profession move forward with the times. While speaking of eye surgery, I might add that very little advancement has been made of late years in that direction, save what has already been mentioned, consequently it will be of no interest to repeat what is already known.

A word more on the subject of the eye as it affects the public, particularly the school children, will not be out of place in this report. It is a well demonstrated fact that, as education advances, the errors of refraction become more common; consequently, the number who wear spectacles is on the increase, with the growing population, more especially the educated. The most common defect is myopia, or, as it is more frequently called, a near-sighted condition of the eye, based upon a defect in the shape of the eyeball, the opposite of hypermetropia. A great deal might be done to prevent myopia, and check its increase when it has begun, by regulating the light and the desks used by the pupils in our common schools to remove the temptation to stooping. Children should not be allowed to work or read by a dull flickering light, and as we write and read from left to right, we should always sit so that the light comes over the left shoulder, whenever it is possible. A myopic child should not be allowed to indulge to an excess in fine work or reading without suitable glasses to give clear vision. The same advice applies to hypermetropia and astigmatism.

Whenever practicable persons needing

glasses should have the errors of refraction of their eyes accurately determined by an ophthalmic surgeon, and obtain from him the necessary advice in regard to the kind of glasses required. A large majority of all persons wearing glasses, have impaired their vision by the use of *spectacles unsuited to their eyes*. For this reason it pays the family physician to advise his patients who are suffering from the errors of refraction, to consult an oculist. This advice is not given for the benefit of the writer, but for the benefit of the public. No one knows the amount of suffering arising from wearing unsuitable spectacles as well as the ophthalmic surgeon. To elucidate this better I offer a clinical report of three cases:

CASE 1. D.C., aged 22 years, called at my office, said she was almost blind, and had been using all kinds of treatment without any benefit. Noticing that she wore glasses, I asked why she wore them? She said she was near-sighted. I examined her eyes externally and found no trouble save a slight conjunctival irritation. On examining her eyes with the ophthalmoscope I found she had a normal eye save that she was troubled with hypermetropia. I then asked her to let me see her glasses, and, to my utter astonishment, I found that she was wearing negative glasses—exactly the reverse of what her eyes demanded. To use her own words, "she had suffered from morning until night with headache, and had been treated by several physicians, but without any relief." I had the necessary lenses ground to neutralize her trouble, and the result was that the hypermetropia vanished and the headache ceased.

CASE 3. B.D., aged 20 years, a seamstress, called to consult me with reference to her eyes; she said she had doctored them a great deal—the last was with a lady eye-doctor, who told her that the lids were granulated, and had been trying for months to burn them off—had been trying glasses from every jewelry store in the city, but could not get any that she could work or read with for any length of time without giving her a great deal of pain, and she was then trying to wear a pair that gave her the headache. I examined her eyes and found them to be astigmatic, which I corrected by spherico-cylindrical lenses, as follows:

Right eye: plus 2.25 S plus 1 C.; axis vertical.

Left eye: plus 2.50 S plus 1.25 C.; axis vertical.

This cured the "granulated" lids, and the lady was able to use her eyes without pain.

CASE 3. N.A., aged 19 years was brought to me from the country. The father said he had bought a good many pairs of glasses but his girl could not see with them. Now he wanted me to tell him if anything could be done for his daughter's eyes. I examined the girl's eyes, and told the father I could have glasses ground that would give her very good vision, and the following formula was made:

Right eye: plus 2.50, S plus .75 C, axis 125°, prism 3°; base in.

Left eye: plus 2.50 S. plus 1.75 C, axis 90°, prism 3°; base in.

These corrected the abnormal condition of the girl's eyes and she was made to go on her way rejoicing.

A CASE OF ILEUS—THE RESULT OF AN OLD LESION OF THE BOWEL.

By E. W. KEEGAN, M.D., Crawfordsville, Indiana.

On March 3d, 1884, I was asked to prescribe for Mrs. G. F., aged fifty-eight years, for a case of colic. I gave the usual prescription. This was about 4 o'clock in the afternoon. At 8 o'clock I was called to see the patient and learned from her daughter that the patient had assisted in doing a large washing during the morning and eat a hearty dinner and was as well as usual until 3 o'clock, when she complained of severe pain in the stomach and vomiting simply the contents of the stomach. As she was unable to retain medicine by the stomach, I gave a hypodermic injection of morphia at once, which mitigated but did not entirely relieve the pain. Her features had a pinched and anxious appearance, her pulse was small, wiry and almost imperceptible at the wrist and her temperature was subnormal. On inspection her abdomen was very much distended in the region of stomach and transverse colon, so much so as to look like a large tumor lying across the abdomen, but not extending much below the umbilicus. In addition to the hypodermic I prescribed stimulants and opiates as required and directed large emollient poultices over abdomen, but she gradually sank and died at two o'clock, just eleven hours after the first symptoms of pain.

I made the post mortem, sixteen hours after death, assisted by Drs. Hutchings, Leach, Restium, Stewart and Thornbury.

The rigor mortis was well marked. On opening the abdomen we found the ascending and transverse colons enormously distended with gas, and about five inches below the junction of the transverse and descending colons we found the descending colon twisted upon itself three times, so as to completely occlude the bowel. After we had untwisted the bowel we found the descending colon contracted to about the size of a lead pencil for a distance of two inches and it was at this contraction that the twist of the bowel had taken place. The contraction was evidently an old lesion as it had all the appearance of having existed for some time and I have had occasion to prescribe for this lady for at least five years for attacks of colic.

Society Reports.

ACADEMY OF MEDICINE.

Meeting of March 10, 1884.

W. W. SEELY, M.D., *Pres't in the Chair.* W. H. WENNING, M.D., *Secretary.*

Address of the Retiring President.

DR. SEELY, the retiring President, prefaced his farewell address by reading the following annual report of proceedings of the Academy of Medicine as furnished, upon his request, by the Secretary:

CINCINNATI, O., March 5th. 1884.

W. W. Seely, M.D., President of the Academy of Medicine:

DEAR SIR—On looking over the list of members of the Academy for the past year I find the following resumé:

Number of members, March 4th, 1883,	104
Reinstated on payment of dues . . .	2
New members admitted during the year,	10–116
Died (Chas. Fairchild)	1
Dropped for non-payment and removal,	1 — 2
Total number March 4th, 1884,	114

The accompanying table (see opposite page) is a title list of work done during the past year, of which the following is a

RECAPITULATION:

Number of subjects	42
Specimens presented	6
Patients shown	6

Yours, etc., W. H. WENNING, M.D.,
Recording Secretary Academy of Medicine.

It will be seen from the report of the proceedings just read, that an extraordinary interest has been taken in our meetings and that from the increase in our number this activity is bearing good fruit. The most encouraging feature to me in the entire report is the list of new members, in that they are all young men. Those who have been at all faithful in their attendance have seen that a goodly part of the time has been occupied by the younger members of the Academy. Our meetings have been characterized by uniform courtesy and desire to simply discuss the science of medicine.

There are many now present who can recall a period in our history when a member could scarcely express an opinion that was not construed as a personal attack on some other member or on the profession.

I certainly most heartily congratulate the Academy that those scenes have simply a place in history and that the only excitement now is such as is afforded by scientific discussions. I can only predict for the new administration success, and thank the Academy for the courtesy and uniform kindness and support it has given me and beg their continuance to the incoming officers.

I now have the pleasure of introducing the new President, Dr. Wenning.

INAUGURAL ADDRESS.

The President-elect, Dr. W. H Wenning, then delivered the following address:

Fellow-Members of the Academy: When at the last meeting of the Academy our distinguished and eloquent colleague proposed the name of your humble Secretary for the Presidency of this Association, and this nomination was then, in a rather hasty, and be it said, unconstitutional manner, made unanimous, it certainly could have struck no one more with surprise than that official himself. It came like a clap of thunder in a clear sky. With all due regard for this kind token of your appreciation for my services in my late position, I must disclaim any merit of my own deserving of so high a compliment; for I have simply endeavored to fulfil the duties that naturally belong to that office, and my productions as reporter of your interesting proceedings were only an echo of thoughts expressed by maturer minds, and a copy of work performed by far abler toilers in the field of science. Nor does it follow that a proper Secretary will also make a good presiding officer; for, speaking

DATE.	SUBJECT.	TITLE.	AUTHOR.	REMARKS.
1883.				
Mar. 19	Remarks	On the Treatment of Stumps	P. S. Conner	
26	Case Report	Pelletierin in Tapeworm	A. B. Thrasher	
April 2	Case Report	Tubercular Meningitis	E. G. Zinke	
9	"	Epithelioma of Lower Lip Pigment Sarcoma of Face	Ransohoff	Patient shown
	"			
16	"	Calculus of Tonsil	J. H. Buckner	Specimen
23	"	Nephrectomy	Palmer and Ransohoff	
30	Essay	Acute Articular Rheumatism	Cleveland	
May 7	Case Report "	Epidermal Casts of Feet in Scarlet Fever	E. G. Zinke	Specimen
14	Essay	Sarcoma of Orbit	W. W. Seely	
21	Case Report	Mechanical Treatment of Diseases of Stomach	L. J. Krouse	
		Anomalous Cases of Measles	F. Forchheimer	
28	Essay	Meddlesome Midwifery	C. O. Wright	
June 4	Case Report	Lupus Erythematodes and Vulgaris	A. Ravogli	Two patients
11	"	Herpes Zoster	A. G. Drury	Patient
18	Case Report	Puerperal Eclampsia	E. W. Mitchell	
25		None but Miscellaneous Business.		
Sept. 3	Essay	Summer Diseases	Cleveland	
17	"	Intestinal Hemorrhage	Whittaker	
24	"	Cephalamatoma	E. S. McKee	
Oct. 1	Essay	Color Blindness	J. W. Carpenter	
8	Case Report	Sudden Aberration of Mind from Heat	Whittaker	
8	Specimen	Dysentery Complicating Abortion	Cleveland	
15	Essay	Ankylosis and Ossification of Larynx	Krouse	Specimen shown
15	Specimen	Kairin, New Antipyretic	Wilfert	
15	Case Report	Supernumerary Rib	Wiggins	
		Intestinal Obstruction—Gall-Stones	Ransohoff	
22	Cases	Pleuritic Effusion	Jos. Ransohoff G. E. Jones L. J. Krouse E. W. Mitchell	
29	Essay	On the Despotism of Words	O. Everts	
Nov. 5	Case Report	Retroperitoneal Cystosarcoma	Ransohoff	Specimen
12	Essay	Excision of Hard Chancre	Ravogli	Micro. specimen
19	Case	Ichthyosis Hystrix	Hyndman	Patient shown
26	Remarks	On the Use of Uterine Tents	Reamy	
Dec. 3	Cases	Favus (Two Cases)	Ransohoff	
	Remarks	On Punctured Wounds of Skull	Conner	Patients
17	Case Report	Typhoid Fever	Forchheimer	Specimens
1884.				
Jan. 7	Remarks	On Ocular Therapeutics	W. W. Seely	
14	Case Report	Hemophilia	Forchheimer	
21	Essay	Anuria (Electrolysis in Stricture)	Wm. Judkins	
28	Case Report	Aneurism of Celiac Axis	Cleveland	
Feb. 4	Essay	Epileptic Insanity	Ph. Zenner	
11		*Great Flood. No Gas.*		
18	Case Report	Pericardial Effusion	Whittaker	
25	"	Abscess of Liver	Drury	

for myself at least, (not being sufficiently skilled in parliamentary tactics), I fear I shall not do justice to the position worthy of a chairman of this time-honored institution.

It would be, therefore, with the greatest hesitation and diffidence that I accept this generous offer from your hands, were I not assured beforehand that the universal courtesy and forbearance shown me during the last four years in my former capacity, will also be accorded me in my new position.

To me, however; this appointment has a far greater than personal significance. Being one of the younger members of the profession, I feel that this honor is more a tribute and encouragement to the younger members of our Society, and I hope it will have the salutary influence of inducing more brilliant young talents to join our ranks and take part in our deliberations. The benefit to be derived from an attendance at our meetings is incalculable. Judging from my own experience, a regular attendance at the meetings of a medical society, after one has absolved the theoretical part of the study of medicine, is far more instructive than so many hours spent over clinical text-books and other medical literature. So many interesting cases are constantly reported, and their practical points so thoroughly sifted, that in every instance one must leave these meetings with a clearer understanding of the subject under discussion than could otherwise be obtained. Moreover, there is something fascinating in the idea of young men coming here and joining in a friendly debate with some of those to whom but recently they stood in the relationship of pupil to teacher. At the same time, however, I pray that our brethren who have laid the foundation for all our labors, and who have marked out to us the path which we are to follow, will not voluntarily place themselves on the retired list, but let us also reap the benefit of their ripe experience and draw occasionally from the font of their knowledge and erudition.

It might be deemed rather presumptuous on my part, at the present time, to propose any suggestions to an honorable body which works so harmoniously together, and has been presided over by more competent persons to give any necessary advice. It is also customary to make recommendations only in a farewell address; but during my position as Secretary a few points occurred to me as worthy of our consideration, and I offer these suggestions the more readily as my inaugural address as President may at the same time answer for my farewell remarks as Secretary.

A few years ago one of our Presidents recommended the annual issue of a copy of our proceedings, but the committee appointed to consider this and other suggestions made by the same gentleman did "not deem it advisable to recommend the separate publication of a Volume of Transactions, since a larger class of readers is reached by the present mode of publication than could be by the method suggested in the address of our ex-President." This opinion still holds good to-day, but I would suggest that the Secretary be instructed to secure an extra reprint of all the papers read and discussions held in this Society, that after being properly indexed they be bound and deposited in the Archives of the Academy as part of the records of our meetings, for ready reference at any future time. This would entail but very little expense to the Society.

Secondly, I would advise either that the constitution and by-laws be revised, if they be found inadequate to the demands of the present day, or, instead of being openly violated, as was done, for instance, at our late election, they be entirely abolished.

Thirdly, in order to encourage the spirit of collective investigation, that occasionally some important subject be selected and its different parts, as the etiology, pathology, symptomatology and treatment be relegated to different members for preparation, or some other proper division of the subject made, for its more thorough discussion in all of its bearings, by allotting one evening to each part. In the few instances in which this has been practiced, such a treatment of a subject has proved very instructive to all. On other occasions some of the most interesting points have had to be omitted as not coming under the scope of the essay at the time.

And now, Gentlemen, in accepting the chair for the coming twelve months, I express to you again my warmest thanks for this unwarranted promotion, and I only hope that at the end of my term I may lay this trust in the hands of my successor with the general satisfaction that has characterized the exchange of office since my recollection within this Academy; and particularly do I hope that I may emulate that same affability of manners, coolness of judgment, and impartiality in decision that have so signally graced the office of my immediate predecessor.

The President then appointed the following standing committees for the year 1884-5:

Admissions — Drs. E. G. Zinke, Phil. Zenner, E. S. McKee.

Essays—Drs. A. G. Drury, Herman Wilfert, C. M. Ellsbury.

Ethics—Drs. James T. Whittaker, Byron Stanton, R. B. Davy.

Publication—Drs. J. C. Culbertson, A. B. Thrasher, J. C. McMechan.

Executive — Drs. C. O. Wright, Jacob Trush, W. W. Seely.

Meeting of March 17th, 1884.

W. H. WENNING, M.D., *President, in the Chair.* G. A. FACKLER, M.D., *Secretary.*

Cancer of the Breast.

DR. WHITTAKER, introducing the report of a case of cancer of the breast, referred to the fact that the name "cancer" was used at the time of Galen, because of the similiarity of appearance existing between the new growth and a crab. In regard to its pathology, no accurate information was given until the time of Bichat and Lænnec. Then the theory of homologous and heterologous growths became prevalent. Heterologous growth, however, was erroneously defined to be one whose tissue differed from any normal tissue of the body. Mueller refuted this theory, claiming that nothing could be found in cancerous tissue which would distinguish it from that found normally in other parts of the body. Rockitansky claimed that cancer was developed from a specific blastema. Virchow again employed the terms heterology and homology, naming a tumor homologous when its structure resembles that from which it originates, that is, a natural tissue in a natural place. An homologous growth, hence, is a kind of hypertrophy. A heterologous tumor is one whose structure differs from the tissue in which it is found, that is, a natural tissue in an abnormal place. Virchow maintains also that carcinoma is developed from connective tissue, and distinguishes it from sarcoma by the number of cells. Carcinoma is accompanied by local destruction of tissue, metastasis and cachexia, and has a tendency to recur. Waldeyer taught that carcinoma was an atypical epithelial neoplasm, while Thiersch proposed the view of senile involution. Cohnheim maintained that there existed a hereditary or congenital predisposition, and a direct exciting cause was necessary for the development of carcinoma. The germ may lie latent and develop after trauma or local irritation; especially apt to occur at the meeting of the skin and mucous membrane. An example of the latter is the frequent occurrence of epithelioma on the lips of smokers from the irritation of pipe. The chimney sweep's cancer is produced on the penis and scrotum from the irritation of the soot. The latest theory is that of Beneke, who states that carcinoma develops most frequently in brunette individuals, of a bilious temperament (having richly functionating livers), and who subsist mostly on animal diet.

The case he was to report came under his observation about four years ago. The patient was a lady aged forty years. At the time she was complaining of dyspepsia, for the relief of which all medication proved insufficient. On making a closer examination, by means of palpitation a tumor was detected in the uterine region, which, from its location and consistency, was suspected to be a uterine fibroid. Upon vaginal examination, a mass was found in the uterus, making it impossible to introduce a sound.

About the time of the examination, the chief difficulty experienced by the patient was the evacuation of the bowels. She was, however, always relieved by placing her in the knee-elbow position and administering a rectal injection. The patient passed out of the speaker's hands, and drifted into the care of a gentleman who employed electricity as a part of his treatment, which proving of no avail, she returned to Dr. Whittaker.

He now for the first time detected in the mamma a mass the size of a walnut. The characteristic retraction of the nipple was present. All symptoms pointed to scirrhus of the breast. He advised consultation, but the patient objected. The physician in regular attendance at the time insisted that the growth was not cancer, and promised to cure it, too, with electricity.

She came again under his observation two years later. The tumor had now attained the size of two fists. It was now obvious that an operation was imperative, Consultation was insisted upon. Dr. Connor was asked to see the case. He also pronounced it a case of scirrhus, and thought that there was still a chance of rescue if an operation be performed immediately. To further convince the patient, Drs. Dawson and Ranshoff were requested to see the case, and both concurred in the opinion of the others. Still the patient could not be induced to submit to an operation, and desired to consult some Eastern physicians. She accordingly left to gain the advice of Drs. Sands, Thomas and Goodell, all of whom told her to follow the advice of her attending physicians. Dr. Goodell wrote as follows:

GENTLEMEN:—To your question regarding the growth in the left breast of patient, I reply:

1st. It is not benign.
2nd. It should be removed.
3rd. The sooner it is removed the better.

Very respectfully yours,
WM. GOODELL.

The following reply is from Dr. H. B. Sands:

Have examined patient in accordance with your request. I made no examination of the uterus except by palpation through the abdominal wall, assuming the diagnosis of fibroma to be correct. Regarding the disease of the breast, I have no doubt that it is hard cancer. In my opinion the case is an unfavorable one for operation. The skin is extremely diseased, and so much of it would have to be taken away that a large part of the wound would be left to heal by granulation. The worst feature in the case, however, is the extent to which the lymphatic glands are involved in the cancerous deposit. Not only is the axilla pretty well filled, but an enlarged gland can be distinguished above the clavicle, and it is quite probable that the disease has already passed beyond reach of the knife. Certainly no reasonable hope can be offered that the malady may be arrested by operative interference, and I am doubtful whether any benefit could be derived from the operation which could compensate for its risk, etc.

I am, gentlemen, wiih sincere regards,
Yours very truly,
H. B. SANDS.

Since the majority of surgeons advised prompt extirpation, it was undertaken by Dr. Connor, and skillfully preformed. The entire structure, with lymph glands, was removed. The patient did well for eight days, at the end of which period an intractible vomiting set in, for which all means of relief were vainly tried. To this she succumbed in five or six days.

The speaker then presented to the Academy for inspection the breast, uterus, stomach and liver, and read the following report of the post mortem, made by Dr. E. W. Walker:

POST MORTEM.

Body well nourished.

Post mortem rigidity well marked.

Left side.—A large wound in mammary region, gland having been removed.

Thoracic cavity.—Scattered throughout both lungs, several small caseous nodules. Underneath pleura of right lung was a small hard plate, which, when examined under microscope, was seen to consist of fibrous bundles, running in every direction.

Heart. — Very small, of a deep brown color.

Pericardial fluid. — Slightly increased in amount.

Abdominal Cavity:

Spleen.—Very small and firm.

Liver. — Contained a large amount of fat, and was very anæmic.

Stomach.—About pylorus was an annular superficial ulceration. Mucous membrane about greater curvature ulcerated, except at free surfaces of rugæ. This ulcerated condition, except at pylorus, was probably post mortem.

Intestines.—Very anæmic. Some slight enlargement of mesenteric glands.

Uterus. — Contained a large number of fibroid tumors, varying in size from a hen's egg to a hickory nut. The tumors, when examined under the microscope, were found to consist of white, fibrous tissue; mixed up with it were some involuntary muscular fibres. These tumors were both sub-peritoneal and intra-mural. They were exceedingly firm, and, on section, of a glistening white color. In center of one of larger tumors was a calcareous mass.

Kidneys,—Extremely anæmic.

Bladder. — Contained small quantity of urine.

On examining the mammary gland and the infiltrated glands, which had been removed, they were found to have an alveolar arrangement. The alveoli were small, and the cells filling them were small, and of different shapes, spindle, flat and round, The stroma of the tumor was very dense. The examination of the infiltrated glands showed the same alveolar structure, Gross appearance of the tumor of a whitish color; here and there, scattered throughout it, were small islands of fat.

The tumor was extremely firm, cut almost like cartilage.

Both tumor and glands, microscopically and macroscopically, showed all the characteristics of a scirrhus.

Dr. Whittaker referred to the condition of the stomach as the most interesting portion of the post mortem report. Had the ulceration which Dr. Walker pronounced post mortem existed ante mortem, the vomiting might be explained. The patient had suffered from three attacks of vomiting long before the operation, one of which nearly proved fatal.

DISCUSSION.

Dr. Conner thought that he had never seen a more typical case of scirrhus of the mammary gland. The tumor was situated in the upper and outer quadrant, which is not its most frequent location. It was as large as a double fist, and excessively hard. There was present an immense axillary enlargement, three or four glands could be distinctly felt at the clavicle. The case was an unpromising one; the patient was of a delicate constitution, but wiry and nervous. But taking into consideration the facts, viz: its long existence, its rapid growth, the adherence of the skin, the probability of its breaking down, justified him in deeming it the wisest course to remove the growth, hoping, not to save her life, but to free her from the annoyance of an ulcerating and breaking down mass. Hence he advised immediate removal. At the time of the operation he was compelled to remove a large portion of the skin, which had become involved, leaving, hence, a correspondingly large surface to heal by granulation. He had never before observed such a mass of enlarged lymphatic glands. Two large masses above and below the pectoralis muscle. An enlarged supra clavicular gland was beyond the reach of the knife, and he did not feel justified in making an incision above the clavicle for its removal. In most cases, after removal of the tumor, the case remains stationary for some time.

We find much difficulty in coming to a conclusion as to the feasibility of an operation, because we generally get the case at a time when the glands are already involved and the chances of complete recovery are not very good. The speaker can, however, see no benefit in leaving the gland to itself except in aged individuals, where the gland is withered. It is a matter of much regret that we get hold of cases invariably too late, when they are diffused or generalized. To illustrate the difficulty in judging the extent of the disease, he wished to relate a case upon which he operated a short time ago. The tumor, of the size of the end of a thumb, was situated at the junction of the breast with the chest wall. Duration of the disease six to eight months. Could find no enlarged glands, but on opening the axilla came upon a mass of them. The speaker is convinced of the correctness of the view, that a thorough removal, especially of the lymph glands of the axilla, is absolutely necessary to insure favorable results. The objections raised are that the case grows complicated, progress is not so favorable, that the patient is exposed to accidents during operation, such as opening the artery or vein. The only safety, however, lies in a thorough cleaning out of the space. Volkman makes a separate incision at the posterior axillary fold, finds the axillary vein, separates it from the surrounding tissues and then proceeds to extirpate all lymphatic and connective tissue. The speaker does not think that this procedure has the advantage of clearing out the space with the handle of the scalpel or by means of the finger. Thought that if in Dr. Whittaker's case an operation had been made sooner, the chances of recovery would have been more promising. He was unable to attribute the vomiting to any cause. He had learned upon inquiry that the patient had had two previous attacks of a similar nature. In neither instance did medication prove of avail, but the vomiting ceased of its own accord. There were no indications that the final attack was due to operative effects. In the case there were present no secondary masses whose presence would demand operative interference. The speaker advised that even in cases in which the tumor appeared benign an exploratory operation should be made. The operation is not severe and he thinks that if more breasts were sacrificed a smaller number of women would die.

Dr. Young wished to report a case similar to that of Dr. Whittaker. That is, a co-existence of a fibroid and cancer. When he saw the lady patient she was suffering with retention and suppression of urine. An attempt to introduce the catheter disclosed a disease of the vagina. The silver catheter could be introduced but three inches, while the flexible entered to the extent of six inches. On examination he detected a tumor on the right side. The lady stated that she had noticed a tumor in that location during the last twenty-eight years, or since the birth of her youngest child. The mass was about six inches in length and two inches in diameter. The uterus was involved and he diagnosed it to be a case of hard and firm scirrhus. It advanced rapidly. He was inclined to believe from the history of the case that it was a fibroid. In cases of this kind he would advise an operation, even if there should be no hope of recovery. For if the disease does recur the patient will die with less suffering.

Dr. Ransohoff stated that when he saw the case reported by Dr. Whittaker he was horrified by the gross neglect practiced by the physician into whose hands the patient had passed from Dr. Whittaker. Had an early operation been insisted upon by all of her physicians, the woman would perhaps be alive to-day. He concurred with the other observers that there was no chance for recovery, but relief could certainly be promised, and that by preventing sloughing and the fetid discharge a calm and quiet end could be attained. A favorable diagnosis was out of question, for, aside from its size, the tumor was attached to the breast wall, the patient suffered with pains shooting down the arm to the fingers, enlargement of the axillary glands and those of the neck. It is a question whether there should be attempts at a radical cure in such cases. Simple ablation of the breast is a simple operation. But the moment you leave the chest and attack the axilla for the removal of enlarged lymph glands the mortality is greatly increased. In such a case as that of Dr. Whittaker, it would, perhaps, be more advisable only to remove the breast and not touch the axilla. It is probable that the patient would not experience much trouble for two or three years. The patient would die finally of internal cancer or poisoning of the system.

If he had another case of a similar character he would remove only the breast, leave alone the axillary glands, hoping that the patient would die before the latter parts would become seriously involved. Early operation alone affords positive relief. Statistics in regard to the mortably are of no avail and especially among the German authorities are not trustworthy. Billroth claming 10 to 12 per cent. of his cases to be permanently relieved, while Kœster, of sixty cases has been successful in 25 per cent. There is a case living in this city, which Dr. Mussey operated upon thirty years ago. In regard to the vomiting occurring in the case reported, he was convinced that had he operated he would attribute it to the operation. We often see, that after a patient has submitted to a grave operation he begins to vomit ten to twelve days after the operation and that the emesis continues.

The breaking down of the stomach walls may be attributed to the breaking down of the general system after an operation in which a large amount of blood has been lost. During the last year, he had occasion to amputate forty-five mamary glands. In every case he obtained union. In one of his cases an interesting sequel occurred.

The operation was performed last June. The patient was a woman of stout build and lymphatic temperament. The case was 17 or 18 months duration. The armpit was thoroughly cleaned out, The wounds granulated well and healed entirely in nine or ten weeks. Three or four months, there after she experienced slight pain in the region of her breast. On examination no return of the growth could be elicited, arm-pit was perfectly clear. Since then, symptoms of an ascending neuritis have set in. Intense suffering in lower limbs, the feeling as of wool being placed under the feet etc. Although the operation was made on the left side the first symptoms, became manifest in the right lower extremity and subsequently in the left. The posterior column of the cord is involved. There may be present malignant disease of the bodies of the vertebræ.

Dr. Conner replied that had Dr. Ransohoff been present at the operation, he would have judged differently. The speaker would have done violence to his own judgement had, he left the axillary glands intact. Although it is true, that the breast wound would have healed quickly, yet the glands would have enlarged so rapidly as to induce intense suffering. Nothing could be gained by leaving them. The death may have been due to the operation itself. He doubted this however, for in the first place he had seldom seen less blood lost, and next, during a period of eight days no untoward symptom manifested itself. Then there appeared the symptoms on part of the stomach, which had occurred twice in the previous history of the case. If the operation was responsible for the final emesis; to what cause could the former attacks be attributed. It might certainly be attributed just as well, to reflex irritation from the uterine trouble.

So far as results are concerned, according to his own experience, the vast majority of cases died within ten months. His most satisfactory case was an aged individual, who two or two and a half years after the operation died of an apoplectic seizure, no recurrent signs being manifest in the mean time. In one of his later case the disease recurred in less than three months.

Dr. Walker stated that the ulcer at the pylorus of the stomach had the appearance characteristic of a chronic ulcer. For its production he knew no cause except perhaps local irritation.

Carcinoma of the Liver.

Dr. Wm. Judkins presented a specimen of carcinoma of the liver. In reviewing the history of the case the speaker said that he could find no trace of hereditary tendency; the patient, a former slave, could give no family history. He saw the patient for the first time last November. The most prominent symptom at that time was a persistent dyspepsia. Only a superficial examination was made. In December he was summoned to see the patient, and then detected an enlargement in the right hypochondriac region. It extended upward to the fifth or sixth rib and four to five inches below the margin of the ribs. Dr. Orr saw the case in consultation and agreed with the speaker, that they were dealing with a case of cancer. Two days thereafter the patient died.

Dr. Walker, who made the post mortem showed that in the specimen there was scarcely any liver substance remaining, and that the growth as well as the primary growth in the stomach was of the medullary, soft variety.

Dr. Walker, in this connection also presented two specimens, both carcinoma of the stomach.

In the first a stricture, but two inches in length existed at the pylorus. The central opening was too small for the passage of a pin. Dr. Walker said that this was a case favorable for an operation.

In the second stomach was a cancer of the soft variety extending from the pylorus along the greater curvature. In his first specimen the cancerous development had probably gone on for years, while in Dr. Judkins case the growth was perhaps four to five months duration.

Dr. Reamy said that statistics prove, that even after removal of glands, much extent of life is not secured. He had removed the breast twenty-five times and only in five or six cases has be obtained good results. Four of his cases are still living. The time that has elapsed since the operation varies from two to twenty years.

While an operation without the removal of the glands amounts to nothing, yet he thinks that when they are affected by the same kind of growth as the original one, the system is saturated and not much is gained by their removal. It is shown that some patients live a long while without an operation. He saw a case not long ago in which the growth had existed for quite a number of years and in which a cancer-doctor had removed portions by means of plaster four or five times. He knew of another case that had existed for nine or ten years. The case was one of scirrhus of the breast and the patient suffered very little. The tumor was removed by a cancer doctor and the patient died soon there after. The speaker did not wish to discourage operations. But to do good, it must be attacked at the beginning. He doubts very much, after sifting statistics, analyzing them and subjecting them to the proper test, whether many days have been added to human life or hours of relief from suffering have been afforded by operations except in such cases in which an operation has been performed before the glands have been attacked.

(DISCUSSION TO BE CONTINUED.)

The New York Assembly has passed a bill limiting the time of service of conductors and drivers on city railways to twelve hours a day. In Cincinnati these men work from sixteen to eighteen hours a day.

"Just think, hubby dear," said the wife of one of our prominent Westchester county lawyers, "we've been married nearly a year and our hens haven't laid a rotten egg yet."

THE CINCINNATI
LANCET AND CLINIC
A Weekly Journal of
MEDICINE AND SURGERY,
ISSUED EVERY SATURDAY.

TERMS, $3.50 PER ANNUM IN ADVANCE.

☞All letters and communications should be addressed to, and all checks, drafts, and money orders made payable to
DR. J. C. CULBERTSON,
EDITOR AND PUBLISHER,
281 W. 7th STREET, CINCINNATI, OHIO.

SUBSCRIBERS TO THE LANCET AND CLINIC who have not already remitted their subscription will confer a favor on the publisher by promptly doing so.

Cincinnati, March 29, 1884.

The Week.

WITH sincere regret we announce the recent death of Dr. Lunsford P. Yandell, of Louisville, Ky. Dr. Yandell was one of Nature's noblemen. At the time of his decease he was Professor of Theory and Practice in the University of Louisville and one of the editors of the *Louisville Medical News*.

ACADEMY OF MEDICINE.—Next Monday evening, March 31st, Dr. E. S. McKee will read a paper on "Irregular or Hour-Glass Contractions of the Uterus with a Report of a Case."

AT a recent trial for rape, in England, the medical man who examined both the plaintiff and the accused, stated in his written report, that: "On pushing back the foreskin of the penis of the accused, there was an odor perceptible peculiar to woman." Moral: Get circumcised.—*Weekly Medical Review*.

The editor of the *Review* is Wise—in such things.

CASTOR-OIL AND SCHOOL DISCIPLINE.—According to the "*British Medical Journal*," castor-oil is employed as a means of punishment in the West Highland School of Lochgoil-head, Scotland. Breaches of school discipline are treated by "doses of castor-oil" administered, not in the usually prescribed quantity, but by a draught from the bottle. Whatever laxity exists in that school is certainly not on the part of the teachers.—*N. Y. Medical Journal.*

The above reminds us of a novel method of discipline adopted by a principal in a popular female college. The young ladies under her care would, at times, fracture the rules of the institution by flirting with the "fellows" of the university. When discovery followed such doings, the principal always noticed that the health of the guilty ones was in need of attention; sleeplessness, and other morbid phenomena were observed, and for the correction of which there was nothing in all the world that would effect so speedy and sure a cure as a full dose of epsom salts, taken in a full goblet of water, and on an empty stomach.

Besides, it saved the necessity of calling in a physician. If one dose did not cure, a promised repetition always had the desired effect. A methodical pursuit of this plan of treatment reduced the number of precordial attacks among the pupils to a minimum.

DR. C. W. TANGEMAN will present a paper to the Academy, March 31st, on the use of "Jequirity in Diseases of the Eye."

Selections.

MEDICINE.

PROGNOSIS IN HEART-DISEASE—MITRAL STENOSIS. — An abstract of a lecture delivered before the Harveian Society of London by W. H. Broadbent, M.D., F.R.C.P., and published in *The British Medical Journal.*

This is a common form of valvular disease, and is generally admitted to be the most serious. Of the one hundred and fifty-one cases taken by Dr. Phillips from the St Mary's Hospital post mortem records, it furnished fifty-three, of which thirty-eight were females, and only fifteen males, this predominance in the female sex being constant. The average age of death among these cases is higher than the frequency of a fatal termination at a very early period of life would have led me to expect, being 33 for males, and 38 for females.

A suggestive inquiry is, why mitral stenosis should be so serious, and especially why it should be attended with greater danger to life than mitral incompetence. One reason is that the effects of obstruction here are not so easily neutralized as are the effects of regurgitation. The high pressure maintained in the pulmonary circulation and in the left auricle, by hypertrophy of the right ventricle, will antagonize incompetence of the valve in two ways — by resisting the reflux during systole, and by more rapid filling of the ventricle during diastole. In stenosis this high pressure can only be of service by increasing the rapidity of the passage of the blood through this narrowed orifice during diastole, and, as diastole only lasts a certain time, if the contraction be extreme, the ventricle can not be properly filled before the systole is again due. When such is the case, the compensation is inadequate. On the other hand, since the constriction may reach a degree which in the absence of experience would seem quite incompatable with life, and since the subjects of such extensive change must have lived through all the intermediate degrees, it can scarcely be simply that obstruction, as such, is specially dangerous. Probably the explanation of the greater danger of obstruction, as compared with regurgitation, lies in the fact that when once adhesion between the flaps of the valves has set in, it tends to go on, the friction and strain keeping up chronic inflammation, which glues the valves closer together.

There are clinical features about this form of valvular disease which are worthy of note. The patient, up to a very advanced stage, has not the look of heart-disease, is neither palid nor dusky, nor anxious looking, but often has a good, bright color and cheerful expression. Not unfrequently, up to the moment when, from some cause or other, serious symptoms have set in, he or she is unconscious of embarrassment of the circulation, and capable of ordinary work. On the other hand, such patients are sometimes liable to congestion of the lungs and hæmoptysis after exertion. It is, moreover, the valvular affection, which, independently of inflammation or ulceration, most frequently gives rise to arterial embolism. This is not the result of detachment of fragments from the valves, but is due to the formation of fibrinous coagula between the musculi pectinati of the left auricle, or in the appendix, or, less frequently, between the columnæ carnæ of the ventricle, which are shaken out of their beds by exertion and excitement, and carried into the circulation. Another condition, more frequently met with as a consequence of mitral stenosis according to my experience, than in any other valvular affections, is the great enlargement of the liver, with true pulsation of this organ; and it is not uncommon to find fluid in the peritoneal cavity before there is œdema of the feet and legs, or the œdema will disappear with rest in bed, while ascites remains for a time; whereas cardiac dropsy, as is well known, usually begins in the connective tissue.

Finally, the pulse of mitral stenosis is interesting. It is, in my experience, regular until the heart is failing, unless the obstruction be complicated by regurgition, or by valvular affection of the right side of the heart; and when irregularity comes on, it is usually at first the result of some of the beats of the heart failing to reach the pulse —no doubt from inadequate filling of the ventricle. The action of the heart may thus continue to be regular when the pulse is irregular. In some rare instances there is only one beat of the pulse for every other beat of the heart, and on listening to the heart there will be no aortic second sound with the alternate systoles, the rhythm, as expressed by the sound, being one-two-one, one-two-one. But perhaps the most interesting point about the pulse is that the artery, while rather small, remains full between the beats, and has the character of high tension. This would scarcely have been anticipated, and is not easily explained.

Coming now to the indications by which the degree of obstruction may be inferred, we cannot, as has been stated in the first lecture, rely upon the amount of dilatation and hypertrophy present. There is no dilatating influence brought to bear upon the left ventricle, and no demand for increased exercise of systolic energy. This ventricle, therefore, undergoes but little change, but it is conceivable that in an early stage of contraction, the increased pressure in the auricle might distend the ventricle during its diastole, thus giving rise to a certain degree of dilatation, which will call for some hypertrophy, and, perhaps, it is in this way that an increase in the capacity and thickness of the left ventricle occasionally met with, especially in young subjects, is produced. While, however, the left ventricle undergoes little change, all the other chambers of the heart are affected. The auricle is dilated, often to an extraordinary degree, and the outer walls may either be hypertrophied, or stretched and thinned. But it is upon the right ventricle that the greatest strain falls, and it becomes greatly hypertrophied, with or without dilatation. Unfortunately, there is no such correspondence between the hypertrophy and the obstruction as can be relied on for the purpose of prognosis. It would appear as if the refusal of the left ventricle to enlarge set limits to the enlargement of the right ventricle.

We are thus compelled to fall back upon other indications, and these are, according to my experience, afforded by changes in the sound of the heart. I have, indeed, been led to divide mitral stenosis into three stages, distinguishable chiefly by modifications of the sounds. The diagnostic sign of obstruction at the mitral orifice, upon which most stress is usually laid, is the well known presystolic murmur of vibratory character, heard over a limited area of the inner side of the apex, and often accompanied by a thrill perceptible to the hand. When present it is perfectly characteristic, though not absolutely pathognomonic, and probably exists for a time in all cases, but in a very large proportion of the occasions on which the diagnosis of this condition of the valve has to be made, it is absent.. The following, then, is the course of the modifications which I have traced in numerous instances, verified by post mortem examinations.

In the first stage there are presystolic murmur and thrill, with more or less accentuation of the pulmonary second sound, and, perhaps, reduplication of the second sound. Its distinguishing mark is the presence of the second sound at and to the left of the apex. An apex murmur, followed by two sounds, can scarcely be taken for anything but presystolic, and diagnosis is extremely easy. At this stage, according to my experience, there are no symptoms.

The second stage is marked by the disappearance of the second sound from the apex. At the same time the first sound, as heard here, has gradually undergone a complete change of character, and becomes short, sharp and loud, so as to be extremely like, in fact, an exaggerated second sound. Now, mistakes in diagnosis are easily made, the presystolic murmur, ending in a short, sharp first sound, is taken to be a systolic murmur followed by a loud second sound, and the disease is supposed to be mitral insufficiency. Thus the most serious of the valvular affections, at a period when symptoms are impending, is taken for the least serious.

There will, of course, be accentuation of the pulmonary second sound, with or without reduplication. It would, perhaps, be scarcely worth while attempting any explanation of the modifications specified, were it not that a fact will be borne in mind for the sake of a reason, which might otherwise be forgotten. First, then, it may be asked, why does the first sound become short and sharp? No very definite answer can be given. It can not be the direct result of the state of the valve, and seeing that in hypertrophy we have a modification of the first sound of a reverse kind, while in dilatation and palpitation the first sound approximates in character that of mitral stenosis, it would seem that the peculiar modification has its origin in the walls of the ventricle, and it may be conjectured that the imperfect distension of the cavity, and the consequent absence of resistance at the beginning of the systole, is the determining cause. This sharp first sound has been spoken of as the remains of the presystolic murmur which leads up to it, but such an explanation is inadequate.

The disappearance of the second sound at the left of the apex, which, with the short sharp character of the first sound, marks the second stage of mitral stenosis, is probably explained by the following considerations. In the normal heart, a second sound is always audible at and to the left of the apex; and repeated careful examinations have convinced me that it is the aortic second sound which is here heard, and not the pulmonary, even when accentuated and unduly loud. In mitral stenosis, there are two influences tending to prevent the aortic second sound from reaching the surface of the chest. First, the left ventricle, not undergoing dilatation and hypertrophy, while the right enlarges greatly, is overlapped by the latter, which usurps the position of the apex, and thus the left ventricle can-not conduct the aortic wound to the chest-wall. Again, the aortic second sound will be weak, because the diminished amount of blood entering the ventricle, in consequence of the narrowed mitral orifice, will not distend the aorta, and will, therefore, fail to provoke a powerful recoil, such as is necessary for the production of a loud second sound.

The presytolic murmur itself often undergoes a modification in this stage. As commonly heard, it occupies the end of the diastolic interval, running up to the first sound, and corresponding therefore with the auricular systole. But it may be a long or a short murmur, and may indeed occupy the entire diastolic interval, when it will correspond not only with the auricular systolic but also with the active diastolic rebound of the ventricle from contraction; *i. e.*, murmur is produced by the current of blood sucked into the ventricle as it dilates, as well as by that driven into it by the systole of the auricle. This murmur occupying the whole diastolic interval is most frequent in bad cases. But it may further be cut in two, and, instead of being a continuous rumble from the second sound up to the first, may subside as the active dilatation of of the ventricle ends, and before the auricular systole begins; or the presystolic part proper of the murmur may be lost while the diastolic part remains audible, so that the only murmur heard is diastolic *i. e.*, a diastolic mitral murmur strictly speaking.

The third stage is characterised by the disappearance of the presystolic murmur, so that, the second sound being already lost, the only sound heard at and outside the apex is the short sharp first sound described. This is almost invariably coincident with the establishment of tricuspid regurgitation, and it is easily understood that when the tricuspid valve has given way the pressure in the pulmonary vessels will be diminished, and it is so very frequently to a degree which lowers the pressure in the left auricle to a point at which it is incapable of generating force sufficient to give rise to a murmur. It is not necessarily the case that serious symptoms are present when the third stage, as marked by the absence of the presystolic murmur, is reached; but it very frequently happens that, on the occurrence of any complication, the second stage passes into the third, and that on improvement taking place this is reversed.

But, besides the occurrence of tricuspid regurgitation from over-distension and dilatation of the ventricle, there is a considerable liability to actual disease of the tricuspid valves, and to stenosis of the right auricular ventricular orifice, either as a concomitant or as a consequence of mitral stenosis. This brings most serious aggravation of suffering and adds greatly to danger; symptoms of embarrassed circulation, indeed, are never absent, and as a rule dropsy sets in and increases. It has been stated that tricuspid stenosis gives rise to a presystolic murmur in the tricuspid area; but in none of the cases, in which I have had *post mortem* evidence of mitral and tricuspid stenosis, have I met with such a murmur, and the evidence of the latter condition is usually inferred from symptoms rather than indicated by signs.

Up to the present, nothing has been said of the co-existence of mitral regurgitation with stenosis. This is common, though less frequent than might have been expected.

An exact diagnosis under these circumstances is difficult, and the constriction is liable to be entirely overlooked. There will be the systolic apex-murmur of regurgitation, and on hearing this familiar sign it is frequently accepted as a sufficient explanation of the case. So long, however, as a presystolic murmur and thrill are present, they will at once arrest the attention of the careful observer, but when there is no presystolic murmur, great care is required for the recognition of the stenosis. Here the short sharp first sound, not extinguished by the murmur, is of great importance. The pulse, in such cases, may either be regular or irregular. Marey states the stenosis neutralises the tendency to irregularity characteristic of incompetence; my own experience would be better expressed by saying that incompetence introduces a tendency to irregularity into stenosis, and that especially it brings on irregularity early when complications arise. In some cases, however, stenosis, in others incompetence, will predominate, and it is extremely difficult to say in a given case which is the more influential lesion.

Summing up the prognostic indications, it must be borne in mind that mitral stenosis is the most dangerous of the valvular diseases, with the exception of aortic regurgitation, coming on at or after middle age, and that the appearance of the sufferer may be very deceptive, the subject of this affection often looking very well at a time when danger is imminent.

It is again frequently fatal in early life; so that, while we may hope for the establishment of compensation in aortic and mitral regurgitation affecting young subjects, we must be apprehensive of progressive mischief and comparatively speedy death in mitral stenosis.

In endeavouring to estimate the degree of constriction of the orifice, which is the most important element in prognosis, we are not greatly assisted by the extent of dilatation and hypertrophy of the cavities and walls of the heart, but a careful study of the sounds and murmurs affords some information. When, with the presystolic murmur, a fairly good first sound and a distinct second sound are heard at and beyond the apex, there is, according to my experience, little or no liability to the recurrence of symptoms. With the disappearance of the second sound at the apex, and the establishment of the short sharp character of the first sound, there come a liability to complications and cardiac troubles, and these complications and evidences of cardiac difficulties may come on very abruptly. A prolongation backwards of the presystolic murmur, so that it occupies the entire diastolic interval, or becomes diastolic in time, adds to the gravity of the indications; so also does disappearance of the presystolic murmur, especially when it coincides with tricuspid regurgitation. Of the prognosis, when pulmonary complications or dropsy are present, there is scarcely time to speak; but it must be mentioned that, among the special contingencies of this affection, is embolism, which may occur almost at any stage. Finally, sudden death is not uncommon, through not in the sense of falling down dead while in apparent health; there is a liability to the sudden and unexpected setting-in of severe symptoms in patients already suffering, which rapidly issue in a fatal termination.

THE TREATMENT OF ENTERIC FEVER BY COLD BATHING. — There are few more remarkable instances of the oscillatory progress of medicine than is to be found in the history of the treatment of fever. In the days of the saints it seemed a reasonable proceeding to put a man suffering from fever under the pump. A rebound came, and anything in the shape of a chill was deprecated as likely to send the fever in, or rather the rash which was the open expression of it; and now, in modern days, we not only discuss but apply a treatment similar in its aims to that of our ancestors, for the moderation certainly, some think possibly the abolition, of fever. Happily, however, in the present, we have more numerous means at our command, and those that are so are more delicately adjusted for the wonderful mechanism to be dealt with. Were it not so, the more open measures, such as cold bathing and the methods allied to it would have but little chance of success; at least, it would be left to the most energetic and robust medical advisers to propose them, much in the same way as the practice of bleeding stands now. The patient dislikes the idea of venesection, even when it would probably be beneficial to his recovery, and in the uncertainity of medicine the medical man does not think it worth his while to insist upon a treatment so repugnant. It is not far otherwise for the bath treatment of fever. The conditions of hyperpyrexia are more urgent, and the relatives of a patient thus affected more willing by so much to listen to reason; but the public is not yet sufficiently instructed to like the idea, and, in proportion as this treatment is extended to other cases than the worst cases, so at present there will be difficulty in applying it. For this reason, therefore, the discussion just concluded in the Medical Society of London is of very considerable value. It will serve to clear the air by making manifest in some measure what is the mind of the profession in the matter; for it is clear that to have any chance of success, a method which, in a most important respect, traverses notions which may almost be said to belong to us as instinct, must be recommended by those who have no doubt of its efficacy. The discussion in question was the treatment of typhoid fever by cold bathing; but, while the scope was thus narrowed in one direction, it was widened in another, because facts which do not admit of dispute for hyperpyrexia, allow much room for discussion when applied to the conditions of ordinary fever. Dr. Coupland, in his elaborate and able paper, rightly says that cold bathing is the only measure that has succeeded, and he might have said on several occasions, in saving life threatened by hyperpyrexia, and no one would dispute its efficacy as a last resort in such urgent cases. But it is the employment of the bath to control the whole course of the fever which he discusses in his paper. The conclusion at which he arrives is one in common with Brant, Jürgensen, Leibermeister, Cayley, and others, that the mean mortality of London from enteric fever treated all round is from 15 to 18 per cent, while the mortality from cases treated by the cold bath would appear to be from 10 to 7 per cent. This is so material a reduction that, if the facts are to be relied upon—and we think they are sufficient for the purpose—it should secure for this treatment a much more extended sphere of application than it has hitherto obtained. As regards the facts, we think they are worth attention, if only on *a priori* grounds. We are now quite familiar with the demonstrations of experiment which show that all the tissues are structurally damaged by the persistence of pyrexia. As a matter of fact, demonstration is hardly needed, when it has happened to most of us to see the wreck of brain and muscle produced by a prolonged attack of typhoid fever, and the anxious period of slow rebuilding which follows. Nevertheless, it is not without value.

Again, there are illustrations in abundance that pyrexia reacts upon local conditions, and may, therefore, and probably does intensify any local inflammation which may have been instrumental in calling it into existence. Unless, therefore, it can be shown that the antipyretic treatment by the application of cold increases the mortality by increasing the frequency of hemorrhage or pulmonary complications, which is not likely to be the case, if it be applied early, and at the same time with discrimination, a strong case is made out for its more general adoption.

At the same time. we are far from underrating the difficulties of drawing conclusions from figures. Perhaps there is no disease which is more capricious in its course; it constantly happens that continued fever is called typhoid because we do not know what else to call the attack, and when, under these circumstances it becomes the practice to cool fever at 102°, for instance, and to start as early as possible in the course of the attack, no doubt this treatment will acquire here, as it has already acquired abroad, a better character than it deserves.

It is a truism that nothing succeeds like success. In this respect, Dr. Bristow's criticisms are of great value. There can be no doubt whatever that the application of the cold treatment to fever is the handling of a means of great power, and of proportionate danger if used without discrimination; and this in all sorts of ways, as regards the type of the fever, and the patient who is to be treated. We talk of dangerous remedies, but it is a question of risks. A disease so severe as to be dangerous to life can hardly avoid some risk in other directions, in the treatment, if the malady is to be combated successfully. We can, therefore, but expect that baths will occasionally produce grave results, and such must be carefully noted as they occur, that they may be avoided as far as possible subsequently. As regards Dr. Bristow's remark that in St Thomas and other hospitals the treatment has been abandoned after trial, we venture to hesitate before accepting all that this might seem to imply. All, of course, hinges upon the question what the trial has been; the treatment is one at the results of which it is difficult to arrive. Dr. Taylor showed this from the experience at Guy's, in consequence of the want of uniform method. Some are bathed, some sponged, some packed, some cooled, once or twice only during a long course of fever; but it may be doubted whether there has been any systemic practice of this kind, except by individuals, and at the Fever Hospital. And it is well worth noting that all who have tried the bath treatment of enteric fevers, or most of them, spoke warmly in its favor, and of those who spoke against it very little evidence was forthcoming, except by Dr. Bristowe, of the objections that were raised being the outcome of their experience. Dr. Samuel West summarised his remarks in four objections, and much of the mind and heart of the profession would probably concur with Dr. West's objections; but what are they? That the cold water treatment is based upon a one sided view of the process of fever — but the same might be said of any or every treatment for almost any disease. Mercury hits syphilis when the marksman has but a very fractional view of the bullseye. Again, it is objected that the success of the treatment depends upon the clinical skill with which it is applied; we should certainly be sorry to deny it, but is it any less so with digitalis in heart disease? Dr. West is no doubt correct in saying that a general opinion has developed against the practice, but this has already been indirectly alluded to, and in some measure explained, in a sense that makes the objection of less weight than it would otherwise be entitled to.

Lastly, it is said that this is a question which statistics will not settle. We admit, for there is no doubt about it, that typhoid fever varies in a high degree in intensity in various epidemics, and we only come back to this, that it is unsafe to take a large number of cases, collected from all sources, of which no minute details can be stated, and that the experience of individuals, provided it be obtained upon some definite plan, and is large enough to ensure an average result, is probably more reliable. We should think this the more, for another reason just noted, that no doubt this is a treatment that does require clinical skill. It seems that this personal experience for a sufficiently long period, and from several independent workers, is still a desideratum. Dr. Coupland's series is admirable, showing the kind of elaboration that is wanted, but it is hardly sufficient, as yet, to prove the reduction of the mortality — the kernel of the matter — though unquestionably the finger of observation points that way.

Thus far, on the whole, facts are in favor of the cold bath. But there is another aspect of the question which must be by no means reckoned too cheaply. Is the general adoption of this plan practicable? This hardly received the attention that was its due. Dr. Mahomed did, indeed, express the opinion that there was no valid objection to the application of the antipyretic treatment in private houses. But if by antipyretic treatment he meant the cold bath, it is quite certain that within a very short radius of his window, several of those who are engaged in general practice could easily be found to convince him of his error. It is too often forgotten in the treatment of disease that the attitude, the often enforced attitude, of the general practitioner to his patient is, "all things are good, but all things are not expedient." There is the already mentioned cold reception of a distasteful remedy, when coming at the onset of illness, and when there is, perhaps, no appearance of any great severity of the attack, for it must be remembered that we are now dealing with hyperpyrexia. This is an objection valid enough, since it is a real obstacle; but put it aside as worth nothing in the face of an increased risk to life, and then come to no bath but the morning tub; no nurse, perhaps, but a sister or wife. Perhaps there is a suitable bath, but the room is so small, or the bed so high, as to make the moving the patient a matter of the greatest difficulty.

These are only some, indeed few, of the difficulties met with in hundreds of homes, in the middle classes, and, as a matter of experience, we venture to say that they are often so great as to make even an advocate of the cold bath look sometimes very carefully to see if, perchance some less radical measure will not suffice for the occasion. Even in a hospital, a case requiring frequent bathing upsets a ward considerably, and we have certainly to learn that, except in the best appointed homes, a treatment which consists of lifting a patient in and out of bed, perhaps frequently bathing him, etc., can be anything but troublesome and disagreeable.

No doubt there are many families where means, intelligence, education and energy on the part of the medical attendant will all contrive to render the treatment as easy as possible under the circumstances, but, for the present, the rule being, we believe, as we have stated it, what we want is a comparative series of cases treated by the cold bath, on the one hand, and by other measures, such as sponging and ice packing, on the other.

It is admitted on all hands that the reduction of temperature by bathing is more decided and more persistent than by any other means, but at the same time we cannot think that the ingenuity of the mechanical mind has exhausted itself in its present means of applying cold to the surface of the body. It would hardly be an insuperable difficulty to apply continuous cold to the surface, either dry or moist, equivalent to that of the bath, and it is quite possible that in the ice pack and the water bed, or some modification of it, the advantages might be obtained without the necessity of taking the patient from his bed. — *British Med. Journal.*

CONCERNING THE WASHING OUT OF THE STOMACH IN NURSING CHILDREN.—(Epstein, *Präger. Med. Wochen.*, No. 34, and *Rev. mens. des Mal. de l'E.*, January, 1881).

This operation has been practiced by the author during the past few years with marked utility. The apparatus which he uses for this purpose consists of a Nélaton sound (8, 9 or 10), thirty-five centimetres long. Its end is secured to an elastic tube, forty or forty-five centimetres long, by means of a small glass tube, which is introduced both into the sound and into the elastic tube. Its introduction into the stomach of children, even if only a few days old, is said to be as easy of accomplishment as into that of adults. Only ordinary precautions are necessary in performing this act, the tube being propelled forward by the action of deglutition. Contractions of the stomach follow the irritation caused by the presence of the tube, and evacuation of its contents and irrigation follow. Epstein uses thirty to fifty grammes of lukewarm distilled water to accomplish the washing, and to the water may be added a little benzoate of magnesia, or hydrocarbonate of soda. The liquid is slowly poured into a tube through a funnel, which is raised (with the end of the tube) to a sufficient height, care being taken to prevent the introduction of air. If the infant should cry during the process, the latter must be suspended for the time. It may be necessary to repeat the washing—perhaps three times—before the liquid is returned without discoloration. With ordinary care, perforation of the walls of the stomach is not possible; there may, however, be slight capillary hemorrhages excited by the efforts at vomiting. There is also no danger that a tube of the given length will pass the pylorus and empty its contents into the intestine. In the case of an infant with diseased lungs or heart, the washing is contraindicated. The indications for the procedure are catarrh of the stomach, added to a similar condition of the mouth and intestines, fermentation and indigestion, with the peculiar products attending these conditions. At the commencement of infantile cholera it has also proved useful, and it should be continued as long as the child shows a disposition to vomit.

PULSATILLA IN ACUTE EPIDIDYMITIS.—Numerous disappointments in the treatment of this disagreeable and painful affection by the usual methods, and the perusal of a few brief articles published in the journals at various times by Piffard, Sturgis, and Fox, of New York, have led me to employ experimentally the tincture of pulsatilla, and I am pleased to state, to my complete satisfaction, as in using this drug I found that not only was the relief its administration afforded more prompt than by the former methods employed by me (cathartics, poultices, rest, etc.), but that it completely did away with one of the most objectionable features of that treatment, namely, rest in bed.

The cases upon which I base these few remarks are twenty-four in number, all of which have been treated within the past eighteen months, and they were all in the acute stage of the disease; hence I think I can safely draw conclusions.

During my hospital service in New York I had ample opportunities for practically testing the value of the treatment of acute epididymitis as advised by Prof. Bumstead (Bumstead and Taylor, Ven. Dis., 4th Edit., p. 145 et seq.), and arrived at the conclusion that the only source of benefit was the fact that rest in the recumbent posture was strictly enjoined. Now, the class of men who are liable to this disease are principally young men who prefer to suffer almost anything rather than have their troubles known, and it is with the greatest difficulty that they can be induced to go to bed. Now, here I think we have a remedy which does not require so exacting a discipline, as I never found, in all my cases, any necessity for complete rest in bed, the only requirement being the wearing of a suspensory bandage, and taking of the medicine. The relief from pain usually takes place within three days. The preparation employed by me is the tincture of pulsatilla, the dose being two drops every two hours. No benefit is derived from the use of larger doses at longer intervals.—L. E. Borcheim, M.D., in *Journal of Cutaneous and Venereal Diseases.*

CAPSICUM IN PILES.—This Vidal regards as the best remedy in piles. He prescribes three or four three-grain pills daily, half at breakfast time and half at supper time. Under its influence congestion and all the painful symptoms which accompany it disappear rapidly.

THE SIGNIFICANCE OF DOUBLE SCIATICA. In a recent clinical lecture Professor Charcot described the case of a woman, aged sixty-one, who had been operated on several times for scirrhus of the breast. She developed very severe double sciatica, with pain in the region of both anterior crural nerves. The pains were exasperated by the erect position, so that walking became impossible. There was tenderness in the lumbar and sacral region of the spinal column, but there was no muscular atrophy, alteration of reflexes, or disturbance of the functions of the bladder or rectum. Professor Charcot insisted that double sciatcia is always symptomatic, and the causes are (*a*) diabetes; (*b*) certain spinal diseases, for example, locomotor ataxy and meningomyelitis; and (*c*) some alteration in the nerves themselves. There was no sugar in the urine, nor any evidence of those spinal affections; and in the absence of any sign of a tumor in the pelvis the readiest explanation was cancerous invasion of the vertebral column, causing pressure on the nerves. Secondary cancer of the spinal column was held by Cazalis to be very common, especially after scirrhus of the breast, but it may be also met with in cancer of the stomach. In practice it is important to note that the presence of double sciatica in cancerous patients indicates metastatis, and contra-indicates operative interference. Conversely, severe neuralgic pains in patients at the age for cancer should suggest a careful examination of the breasts, the stomach and the uterus. Such pseudo-neuralgic pains are the ordinary clinical signs of vertebral cancer, but a fungous mass may project from the spine, in which case the vertebræ will be infiltrated, and the consequences will be similar to those of Pott's disease.—*Boston Med. and Surg. Journal.*

SURGERY.

ESTLANDER'S OPERATION. — M. Féréol brought under the notice of his colleagues the case of a patient completely healed of a pleural fistula by Estlander's operation. The subject was a young man of 22, who eighteen months ago was admitted into the Lariboisiére Hospital for pleurisy with extensive effusion. Thoracentesis gave him temporary relief, but the pleural sac refilled after some time, pushing the heart greatly to the right, but this time the patient refused all operative interference. However, the dyspnœa became so distressing that he yielded to the advice of M. Féréol, and nearly two quarts of laudable pus was drawn off by the aspirator. The amelioration that followed was but of short duration, and the operation for empyemia was tried, but with no better result. As a last resource, resection of the ribs was decided upon, and the consequences were highly satisfactory. From the fourth up to and including the eighth rib, were portions removed, and now — six weeks after — the fistula has entirely closed, but the affected side is diminished in circumference by three inches.—*Medical Press.*

EXTIRPATION OF TUBERCULOUS GANGLIONS IN THE NECK. — At the Sociétié de Chirurgie, M. Chauvel spoke in a communication of one of his colleagues on the extirpation of tuberculous ganglions in the neck performed by him, and which terminated fatally from secondary hemorrhage. M. Chauvel gave it as his opinion, in view of the facts of the case, that at best it was a dangerous operation, and should not be resorted to until every kind of general treatment had failed. M. Duprés was of the same opinion, and cited a case of purulent infection as the result of the operation. M. Verneuil remarked that in thirty years of practice he extirpated five or six times glands of the nature in question, but he thought that general treatment should always be preferred. M. Trelat, though associating himself with the general opinion of his colleagues, thought that surgical interference should not be wholly condemned. He had found good results from ablation or scraping (*grattage*) effectually the surface laid bare, in order to provoke inflammation and adhesion. — *The Medical Press.*

SARCOMA OF THE SUPERIOR MAXILLA IN A CHILD OF EIGHT—REMOVAL.—Dr. L. W. Marshall reports (*British Medical Journal*) a case occurring in the Nottingham Hospital. When admitted the growth was of one year's standing and had attained the size of a walnut in the right superior maxilla. There was no pain, tenderness, discoloration or adhesion to the tumor. Operation was postponed. Six months later the case returned, the growth having steadily progressed. The bicuspid and first molar teeth had fallen out and the swelling was encroaching on the mouth, nose and orbit. It was removed by Heath's incision. The orbital plate and posterior part of the maxilla were left, scraped and washed with a chloride of zinc solution, as the tumor seemed to spring from the lining membrane of the antrum.

The patient did well and was discharged from the hospital in eight weeks. At the end of a year there was no sign of return, and the patient was but slightly disfigured.

The portion removed consisted of the greater part of the maxilla and a part of the palate bones. The growth had filled the antrum; microscopically it was composed of spindle-shaped cells, connective tissue and free nuclei.

Paper Towels for Surgical Purposes. In the surgical dispensary of the Philadelphia Polyclinic, Dr. Roberts has been using, with much satisfaction, Japanese paper handkerchiefs for drying wounds. Sponges are so seldom and with such difficulty perfectly cleansed after being once used, that they are never employed in the clinic. Ordinary cotton or linen towels are much preferable to sponges, which, if dirty, are liable to introduce septic material into wounds. The paper towels, however, answer the same purpose as cotton ones, and are so cheap that they can be thrown away after being used. They cost from $6 to $7.50 a thousand. The cost of washing a large number of ordinary towels is thus avoided. The paper towels are scarcely suitable for drying hands, after washing, unless several towels are used at once, because a large amount of moisture on the hands soon saturates a single towel. For removing blood from wounds, a paper towel is crumpled up into a sort of ball, and then used as a sponge. Such balls absorb blood rapidly. The crude ornamental pictures, in color, on the towels, are of no advantage, nor are they, as far as known, any objection.—*Med. and Surg. Reporter.*

MISCELLANY.

First Aid to the Injured.—One of our funny exchanges gives the following:

1. Bites of all sorts are painful, and if not treated with expedition and skill, they sometimes prove very dangerous. The most common kinds are those received from dogs, mosquitoes and bears. The rarest kinds are trilobites and jacobites.
2. One seldom, if ever, gets a bite when out fishing.
3. If about to be bitten by a dog, while serenading or foraging in a melon patch, immediately take some violent exercise, in order to preserve a good circulation. For instance, run a mile or so without stopping.
4. Never stop running because there is a man with club apparently chasing the dog—sometimes he is encouraging him.
5. If this does not accelerate the action of the heart, climb the nearest tree.
6. Don't get down again for the purpose of rescuing the sample of your trousers. This is one of the dog's perquisites, and he wants it for his scrap-book.

Polypharmacy Run Wild.—The following is taken *verbatim* from a prescription recently dispensed by a Lower Province druggist, from one of the most eminent local practitioners:

℞ Pot. bromide..................
Pot. chlor....................
Pot. iodid ....
Pot. acetas...................
Pot. bi-carb..................
Ammonia chl ....
Ammonia bromide...............
Ext. colombo ....
Ext. gentian..................
Ext. taraxaci.................
Ferri pyrophosphas....aa....ʒ ij.
Syrup ferri iodide............
Tinct. valerianas amm.........
Dil. phosphoric acid...aa....fl. ℥ j
Pepsine..................... gr. xxx.
Tinct. cannabis indica........
Tinct. digitalis ......aa......fl. ℥ ss.
Syrup calcii lactophosphas....
Glycerine.....................
Syrup tolu....................
Tinct. cinchona, co ....aa....n. ℥ ij.
Liq. arsenicalis..............fl. ʒ ss.
Tinct. arnica.................fl. ʒ ss.
Ext. nux vomica ....gr. x.
Ext. conii....................
Ext. belladonna...............
Ext. hyoscyami....aa........gr. vj.
Chloroformi..... ....gtt. x.
Quinine ....ʒ j.
Alcoholis....................fl. ℥ xvj. M.

Sig.—Shake and take two teaspoonfuls after each meal, three times a day, in a glass of milk.

—*Canada Med. and Surg. Journal.*

The abolition of capital punishment appears not to have answered the designs of humanitarians in Switzerland, as we learn that the government of the Canton of Glaris has just decided by a large majority to reintroduce the death penalty, which was abolished a few years ago.

American Pork. — Nearly the whole time of the last meeting of the Académie de Médicine was taken up with a discussion on the introduction of salt pork from America. M. Proust, the reporter of a Commission appointed to study the question, brought before his colleagues the results of their deliberations, and the conclusions were resumed as follows:

1. An epidemic of trichinosis can not be confounded with an epidemic of typhoid fever, the symptoms, march, duration, pathological anatomy, and nature of the two diseases being entirely different.

2. No authentic case of trichinosis having been reported in France, England or Belgium, the importation of salted meat from America might be authorized in France.

3. It would be well that instructions as to the proper cooking of pork were widely published and distributed among pork butchers, who should be enjoined to make it known to the public.

Lastly, that it would be necessary that the history of trichinosis were completed, and the cause of the immunity enjoyed in this country relative to the parasite should be inquired into.

M. Lunier brought forward some statistics relative to the consumption of meat in France, which appears to be 80 pounds a head a year. In the towns it is as large as 136 pounds a year, while in the country it does not exceed 48 pounds. The whole, taken altogether, represents 28 millions of pounds, of which only 9 per cent. is imported meat. Of the 80 pounds annually consumed by each inhabitant, pork was entered as one-third of the whole, or 33 per cent.—*Medical Press.*

OLD AGE.—By John Foster, M.D., F.R.C.S. Eng., in the *Medical Press.*

Old age has formed the subject of thought and of writing among poets, philosophers, and physicians, in all ages, because it is the goal to which all life tends; and because it is necessarily associated with thoughts of the great problem—life, and that equally great problem—death. It would be impossible for so interesting a subject to have escaped such great observers as Shakespeare and Addison, and we accordingly find allusions to old age scattered through their works.

The late Dr. Farr, in his classical description of the march through life of a million children, has given, among others, the following results. These results are somewhat modified by subsequent calculations, but they answer my purpose for the present:—

Of a million children nearly 150,000 will die in the first year; 53,000 in the second year; 28,000 in the third year; and less than 4,000 in the thirteenth year. At the end of forty-five years one half the million will have died. At the beginning of sixty years, 370,000 will still be living. At the beginning of seventy, 238,000 will be living. At the beginning of eighty years, 90,000. At the beginning of eighty-five, 38,000. At the beginning of ninety-five, 2,100. At the beginning of one hundred, 223. At one-hundred-and-eight, 1.

From the Census of 1871, Dr. Farr calculated the mean life-time of both sexes in England to be 40·858, or nearly forty-one years.

Mr. H. Humphreys has shown, however, that in the five years 1876 to 1880 the mean age at death was 43·56 years; females, 45·3; being a gain of nearly two years and three-quarters. Thus within twenty years —notwithstanding the increased density of the population, notwithstanding the unsanitary condition of large towns suddenly grown large, and the increased birth-rate —more than two and a-half years have been added to the life of every inhabitant of England. He also shows that more than 2,000 years have been added to the lives of every 1,000 males by the reduction of the death-rate in 1876-80.

Many of you will remember that Dr. Rabagliati read a paper in this room which led to an interesting discussion, which was afterwards continued in the *Medical Press*, and made some sensation in the country. He stated that while fewer lives were lost in the earlier years fewer lived to old age, and there was no saving of life at the more useful ages. I am not going into this question now. I admit that such a thing is logically possible, because if all died at the same ago nobody would die before or live longer than 43½ years; instead of, at any age from a moment to a hundred years.

This view was forcibly put in the *Spectator* in these terms, "What is the kind of life which is increasing, whether it is young life or mature life or aged life which is being enlarged? Are we young longer or mature longer, or old longer?" Do we live longer or are we only a little slower in dying? And here I am bound to admit that some of the gain in early life is lost in middle life. In other words that while the expectation of life at birth is 2¾ years more than it was, the expectation of life from 35 to 60 is somewhat less—a mere fraction.

"Notwithstanding the slight increase of mortality among males aged 35 and upwards, a large portion of the additional survivors live on to the higher ages. Of a thousand born the additional number of survivors is 35 at the age of forty-five, 26 at the age of fifty-five, 9 at sixty-five, 3 at seventy-five, and 1 at eighty-five. The increase in the number of survivors to adult and middle ages is much greater among females." By far the larger proportion of the increased duration of human life in England is lived between 20 and 60.

The object of medical science is to prolong human life to its longest term, and it therefore becomes an interesting question to ascertain what is the natural limit of existence. It is an impossible task to do this with accuracy, and fix a limit beyond which human life cannot pass. Dr. Farr says the natural life time of man is a century. The complete cycle of physiological life is a hundred years. That is the length of time the body will live under the most favorable conditions. Another most interestings question is "When does old age commence?"

Dr. Farr has divided life into stages as follows:—Boyhood, age 10 to 15 years; youth, 15 to 25 years; manhood, 25 to 55 years; maturity, 55 to 75 years; ripeness, 75 to 85 years; old age, 85 and upwards. I should take exception to this division, Oliver Wendell Holmes makes old age to commence at 47, which is as much too early as Dr. Farr's is too late. Old age really begins in certain pathological changes which take place at different ages. It is interesting to learn what are the conditions which hasten or hinder these pathological changes.

It is held that all life begins in a homogenous or formless fluid, and from this developes into the varied forms of living beings. There is a life force, inherited from a pre-existing life, which builds up matter into living tissue and holds it together for a time; and the tenacity with which this force holds organised matter together does not depend on size, or strength, or muscular development altogether, but rather probably on an even balance between the several parts, and on something more. There is an axiom in mechanics that the strength of a chain is equal to the weakest link. We all do wax old as a garment—the tissues lose their elasticity, become brittle, and in some cases rotten. After the middle arch of life is passed, these changes become commoner, and there is danger if we continue to put the same pressure on a weakened vessel, that it may burst. In the hurry and strife of life men, and especially medical men, too often forget this truth, and pay the penalty. After the age of fifty or fifty-five a good deal more rest and a good deal more sleep are required than in earlier manhood. The physical powers have begun to fail; the mental powers should be at their best. It is probable that some of the greatest literary productions have been the work of men between fifty and seventy. Living public men in every department of literature, science, art, and politics may be cited in proof.

For many years after the degenerative processes of old age have weakened the bodily powers, the intellectual powers remain comparatively unaffected. A weakened nerve fiber may retain its continuity, and an atheromatous vessel in the brain its entirity, for a great length of time, if no great strain is put upon it, but let that strain be applied, and then the "silver chord is loosened, and the golden bowl is broken at the fountain."

In taking the decennial period of 65 to 75, and still following the fortunes of the million children born, we find that 309,029 enter this age, and 161,124 leave it alive. Diseases of the brain, heart and lungs are the most common; 31,400 die of old age. The numbers that enter the next decennial — 75 to 85 — are 161,124, and the number that leave it alive are 38,565. 122,500 die chiefly of lung, brain, heart, and other local diseases. Nearly 59,000 die of atrophy, debility and old age. Some writer says that he has met with few or no cases of death from *old age*, everybody dying of some recognized disease. It is true that the symptoms of disease become obscure in old age, many cases of pneumonia and other inflammations escaping recognition. But it is also true that many deaths attributed to disease are mainly due to old age. "Slight injuries, cold, heat, want, or attacks which in early years would have been shaken off." Of the million with which we started, 2,153 live to the age of 95; 223 to 100. "Finally, at the age of 108, one solitary life dies." We find that life is beset with dangers which vary at every stage. Diseases may be roughly divided into two great classes—the parasitic and the degenerative. The former are more prevalent in early, and the latter in the later stages of life. Of cancer, which is one of the diseases of old age, it is not certain whether it belongs to the parasitic or the degenerative type. As I am not dealing with the former—parasitic diseases — I will only remark that the more there are saved from the poisonous diseases, the more there will remain to die of natural decay. As it is the duty of the physician to help man through as many of these stages as possible, and with as little pain as possible, it becomes important to study how to protect him from accidental diseases in the first place, so that he may be able to travel as far on the way as possible before the inevitable time when his strength shall fail and he shall fall out of the march and faint by the way.

The first essential of life is food, and beyond doubt, of the twelve hundred million inhabitants of the world, the majority are underfed, and a large proportion are improperly fed. Poverty is the lot of the majority of the world, and the mortality among the poor and hardworked at all stages of life is amazingly larger than among the middle and higher classes. The human constitution possesses a great amount of elasticity, and will tolerate departure from a correct diet for a length of time, but in the end the penalty is rigorously exacted by Nature. Lessened vitality invariably follows impoverished blood and ill-nourished tissue. Undoubtedly, men are better fed than formerly, and fewer people die of starvation.

But the increased density of the population, caused by the flocking of people to the towns has introduced fresh dangers, or rather intensified old dangers. Unless the sanitary improvements of a district keeps pace with the increase of its population, the mortality invariably increases. Something like 1-7th of the population of Great Britain live in London, a large portion of the rest live in large towns. Dr. Farr says: "What is especially remarkable in London is the high mortality of all ages after 25." The excessive mortality of London men is due to phthisis and pulmonary disease. The same holds good of all large towns. We see that improved health conditions and increased population are fighting a great battle, and on the whole, if not at every part of the field, health is winning.

The conditions under which men live have much to do with the chance of reaching old age, but heredity has also something to do with it. This transmission of qualities acquired and inherited lies at the root of all improvement of the race. To leave the body better than we found it, and transmit that improvement in vital force to posterity is the true evolution by which hereditary taints may be abolished. In my student days a cruel pathology was taught that certain constitutions were doomed to hereditary diseases, and distinct lines of demarcation were drawn between those so affected and others. Logically, that doctrine can only be sustained in a limited sense. Intermarriage must so mix up blood that no constitution could long remain free from taint. Death is the complement of life. All living bodies have their stages of growth, maturity and decay. So all parts of the body go through the same stages. The blood scales, the muscular fibres, the epithelial scales live their time, are cast off, and succeeded by others, often better ones. Thus death is not only the end but the beginning of life. "That which thou sowest is not quickened except it die," is a philosophical truth, and lies at the root of all improvement of the race, as well as at the root of all Christian faith.

The last stage of the journey to this inevitable goal, like all the other stages, has its peculiar troubles, diseases and dangers. How these troubles may be relieved, these diseases avoided, and this stage of life made easier and longer, should be the constant and thoughtful study of every practitioner of medicine.

Bibliography.

SCRITTI EDITI ED INEDITI DEL PROF. COMM CASIMIRO MANASSEI. (1)

With pleasure have we received a book under the above title. C. Manassei is the professor of skin diseases and syphilis in Rome, and to him belongs the honor of being the first to establish a regular clinic and a regular course of lectures on dermatology in that city. He is a very clever and scholarly man, as his works testify, and was the first in Italy who used photography to reproduce the most interesting cases of skin diseases.

Dr. Rasori, in publishing these interest-

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1 Edited and published by Dr. E. Rasori, Rome, Italy.

ing papers, is to be eulogized for his kindly feeling toward the distinguished Roman professor, and for giving to science the valuable works which otherwise might have been forgotten.

The first paper is introductory to his first course of lectures on dermatology, addressed to his pupils in the year 1859, in elegant Latin language. In this he refers to the history of skin diseases, beginning with the classic Greek works; passing to the works of the old Romans, and proceeding to the Arabs, who have so much enriched the dermatological literature of an interesting kind. Having reached the middle age, he speaks of Mercuriale, Hafereffer, Campolongius, etc., of the last century, and then to the last authors of our time. With the calm judgment of a critic he points out the excellencies and the faults of each school in accordance with his own ideas. He believes in its localization but does not entirely neglect the general condition of the organism. He considers the diathesis capable of having some influence on the general health, as conditions of the body which, although not inducing disease, leave the organism in imperfect health. He tries in everyway to study the skin diseases in reference to the general condition of the system in order to find the most appropriate and beneficial treatment.

A second article contains a report of the Board of Health of Rome of many cases of pellagra observed in Palestrina. In this the author shows that the only cause of this dreadful disease is the use of the altered cornmeal, which is the only food among the poor in the winter. It is a very scholarly article, and at the same time very passionate, protesting against the avidity of the rich class, which, in the name of the Catholic religion and under the shelter of the ignorance, leave the poor laborers destitute of all means.

Very interesting is the history of the parasites living in the skin of the human body, which occupies the third part of the book. It is an exposition of the natural history of these parasites of animal and of vegetable life, accompanied by some anatomical sketches of the skin and its appendages in order to understand the action of the parasites on it.

The etiology and therapeutics of the dermatoses was another introduction to a clinical course of skin diseases. There he proves that the question of the casualities of diseases followed all the time the different theories dominating in medicine. The first old schools, one the dogmatic of Coo, and the other empiric of Grido are a proof. He speaks after a while of the humoral doctrines, according to which every disease was caused by bad humors existing in the body, and so from school to school, from Hallen to Cullen, from Brown to Broussais, he reaches the time when the specific name of cancer and of tubercle were mentioned. He speaks of that time when the gods, the spirits of all the hidden powers, were considered the cause of the diseases; the superstition felt through the progress of civilization, but, in spite of it, was substituted by the wonder of the magnetism and somnambulism from Mesmer, and in 1790 was transformed in medical mysticism by Hahneman with his homeopathy. He combats homeopathy with the best logical arguments, concluding that this system is a dream, the remedy a phantom administered for relieving an imaginary malady.

He exposes his ideas for the study of skin diseases, consisting in an accurate examination of the principal causes of the diseases, an exact diagnosis, and, as a consequence, the right application of remedies.

He divides the causes of skin diseases into external and internal. Among the external causes, he groups those which act on the physical and on the chemical constitution of the skin, as a blow, caustics, ect., adding the other substances, which, when taken into the stomach, are capable of inducing some skin trouble; many foods, as strawberries; remedies, as quinia, copaiba, etc. He then passes to the consideration of parasites, vegetable and animal, which produce only local skin affections. The consideration of the internal causes follows with fine accuracy, remarking the interest of the diathesis, as scrofula, syphilis and arthritis in the production of skin diseases. The diseases of the internal organs, as the stomach, liver, spleen, kidneys, etc., concluding with the contagious diseases from blood-poisoning, as scarlet fever, measles, smallpox, etc.

The author considers, furthermore, the influence of climate, of the seasons, of the sex, of age, of the individual, complexion of the skin, of the daily food and drinks, of the conditions of the organism, especially in women, menstruation, pregnancy, menopause, the mind affections, ending with the consideration of heredity.

The second part of the article comprehends the pathological alterations of the skin, which he divides into those perceptible to the eye without the microscope and those only perceptible with the microscope. Here he gives the classification of Willan on the morbid lesions and of Hebra according to the studies of Rokitansky.

Very wisely he speaks of the ideas of metastasis and of metaptosis, which played so important a role in past ages, concluding with the importance of microscopic study in skin diseases for the understanding of their true processes.

Herpes and herpetismus is the argument of another lecture of great scientific interest which he delivered to remove from the profession the idea of humorism in the study of dermatology. The first use of the name of herpes and of herpetic humors he attributes to Lorry, but the following physicians took the name of herpetismus to explain every disease of the skin. This explanation was found very natural and easy, as the *materia penans* existing in the blood, came out in the skin, and physician and patients believed it much better to leave a skin disease than to heal it up, otherwise the bad blood could go into the internal organs and produce severe internal diseases. He shows the foolishness of such ideas with scientific arguments, with the modern discoveries of the parasitic diseases of the skin, and of the anatomopathological observations. He then passes to the examination of the real causes of skin diseases, which he recognizes, 1st, in external agents acting directly or for reflex action on the skin, adding also the parasites; 2d, in alterations of the blood in its chemical constituents; 3d, in a local alteration of the histological tissues of the skin; 4, in the alterations of the nervous system, or peripheric, or direct, or reflex, remembering the eternal circle of causes and effects in the phenomena of life.

Venereal and syphilitic diseases are treated of in the latter part of the book. He refers in a few sketches to the history of these diseases from the Bible and the old Roman times, and holds to the opinion that syphilis was only known in the fifteenth century, when it was imported into Europe, as was small-pox, at the time of the invasion of the Arabs. He expresses his opinion on the contagious and virulent properties of these diseases, assigning to gonorrhœa and to soft chancre the character of a local contagion, and of constitutional infection to syphilis. He supports his opinions by many arguments, describing blennorragia, which is spread from one mucous membrane to another, and when inoculated never produces any trouble, either in the locality or in the general system. In the same way he studies the soft chanchre, the manner of its local propagation, and the consequent virulent bubo, without any trouble as regards the general organism.

The consideration of the hard chancre follows, which he considers contagious, virulent, and infecting. He describes its phases, and points out that the local sore is only in consequence of the local initial syphilitic sclerosis.

It would be too long, in a brief review, to follow step by step all his studies. I will stop at his conclusion that blenorrhagia, soft chancre, and hard chancre are different entities, producing different effects, and calling for different treatment. A.R.

THE PATHOLOGY AND TREATMENT OF VENEREAL DISEASES.(²)

Soon after the publication of the fourth edition of this standard work on Venereal Diseases, its well known and distinguished author, Dr. F. J. Bumstead, passed from earth to that bourne from whence no traveller returns. Most fortunate indeed is the American medical profession in having such a pioneer specialist as the author of this work.

In this fifth and last edition Dr. R. W. Taylor has carefully revised the entire work, bringing it, in all respects, up to our present knowledge of venereal diseases.

In the treatment of syphilis Dr. Taylor most warmly commends the use of erythroxylon coca as an adjuvant, it being especially valuable because of its marked effect on the heart, nervous system, and capillaries, thus improving nutrition. While

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[2] By Freeman J. Bumstead, M.D., LL.D., late Professor of Venereal Diseases at the College of Physicians and Surgeons, New York, etc., and Robert W. Taylor, A.M., M.D., Professor of Venereal and Skin Diseases in the University of Vermont, etc. Fifth edition. Revised and re-written with many additions by Dr. Taylor. Illustrated with numerous wood-cuts and chromo-lithographic figures. Philadelphia: Henry C. Lea's Son & Co. 1883. For sale by Robert Clarke & Co, Price, $5.25.

its use is secondary to that of mercury and iodide of potassium, its employment is attended with results which no other agent now known seems to possess. It is especially useful in anæmic subjects, and in the cachexia at the secondary period, given then with the mercurial, the adynamic effects of the disease are averted.

The experience of the author with the internal use of iodoform has not been favorable.

On the subject of marriage by syphilitics, delay is counselled until the end of the second year of infection, and this advice only holds good for cases which have been regularly treated during that period and which, at the expiration of that time, are apparently free from the disease.

PRACTICAL PATHOLOGY. A Manual for Students and Practitioners. (3)

Never in the history of medicine has there been such intelligent work accomplished in the domain of pathology as within the last decade. In fact, the eyes of the whole medical profession have been largely concentrated on this field of work, and we are pleased to find an exhibition of much of the fruit of such toil in this work by Professor Woodhead.

The author has, in a most admirable manner, prepared this book as a guide to the practical work involved in the study, preparation and examination of morbid tissues.

The microscopic and naked eye appearances are admirably illustrated by means of well executed colored engravings and plates, which are well adapted to assist both students and practitioners in familiarizing themselves with the methods and results of pathological inquiry.

The description of the proper method to adopt in making a post mortem examination and preparation of the various tissues for microscopical investigation is lucid and thorough.

Typical lesions are described and frequently illustrated.

The author gives the result of the very latest researches in pathology in a terse and pleasing style that at once captivates and holds the attention of the student.

Of necessity this most excellent work will take its place as a recognized text-book in all medical colleges, and should find its way to the shelves of all intelligent practitioners of medicine.

The publishers have issued the work in the very highest style of the printer's art.

ILLUSTRATIONS OF THE INFLUENCE OF THE MIND UPON THE BODY IN HEALTH AND DISEASE. Designed to Elucidate the Action of the Imagination. (4)

In all medicine that pertains to psychological subjects no one occupies a more exalted position than the well known author of this volume. His investigations in regard to mental phenomena always command attention.

The author has collected a series of authentic illustrations of the effect of the Mind upon the Body, as found scattered through various medical and other works, in addition to a number that has fallen under his own observation, arranging them on a definite physiological basis, by which he shows the wonderful power and extent of this influence not only in health, in causing disorders of sensation, motion, and the organic functions, but also its importance as a practical remedy in disease.

He then discusses the possible channels through and the mode by which this influence is exerted, and urges the employment of psycho-therapeutics as a remedial agent and in active practice the utilization of this force. We heartily wish this volume could find a place in every physician's library, for here may be found a physiological explanation of many perplexing phenomena.

BACTERIA AND THE GERM THEORY OF DISEASE. (5)

This little volume consists of eight lectures in which the author treats of the diseases produced in the animal body by the invasion of microscopic germs or parasites. In so doing he defines putrefaction and fermentation, describing these processes as the life-work of living beings.

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3 By G. Sims Woodhead, M.D., F.R.C.P.E., Demonstrator of Pathology in the University of Edinburgh, etc. With one hundred and thirty-six colored plates. Philadelphia: Henry C. Leas' Son & Co. 1884.

4 By Daniel Hack Tuke, M.D., F.R.C.P., LL.D., late President of the Medico-Psychological Association, etc., etc. Second American from the Second English Edition. Philadelphia: Henry C. Lea's Son & Co. 1884. For sale by Robert Clarke & Co.

5 By H. Gradle, M.D., Professor of Physiology in the Chicago Medical College. Chicago: W. T. Keener.

In a very interesting manner he describes the various methods used for making examinations for bacteria and micrococci. As a sequence to his belief in the significance of the presence of bacteria, he advocates a germicidal course of treatment.

The subject matter of the book has attracted universal attention in medical circles throughout the entire civilized world, eliciting a marvelous amount of thought and attention ; and while it has caused a vast amount of discussion, our author has done a good work in presenting in a methodic and readable form the views now most generally held by pathologists and those who have for themselves investigated the subject.

A System of Oral Surgery. Being a Treatise on the Surgery of the Mouth, Jaws, Face, Teeth and Associate Parts. (6)

A book of this character that has had a sale of three large editions has passed the bounds of criticism and enjoys the reputation of a work that is satisfactory and acceptable to the profession at large. To those who are not familiar with the work, we will say that this is the most complete system of oral surgery extant. In this new edition we find a large number of new and handsome illustrations. The work is especially adapted to the requirements of the dental surgeon. In this the author seems to have entirely exhausted the subject, giving even the very latest investigations of that prince of dental pathologists, Dr. Miller, of Berlin. To the practicing dentist this work is a necessity, to the general practitioner of medicine it is one of the most useful works that can be placed in a library.

Medical Directory of Philadelphia. 1884. (7)

This concise little volume contains an alphabetical list of the physicians of Philadelphia, bulletins of the various medical societies of the city, hospitals, their location and character; dispensaries, ambulance service, directory for nurses, homes and asylums and charitable institutions of all sorts, with requirements for admission, attention and other necessary information; special laws in which the medical profession are more or less interested. A directory of druggists and dentists is also incorporated.

Altogether the book is a complete work of the kind and very valuable to the local profession and all who are directly or indirectly connected with charitable institutions.

Medical Education and the Regulation of the Practice of Medicine in the United States and Canada. (8)

The Illinois State Board of Health deserves the gratitude of the entire medical profession for the amount of actual good accomplished in elevating the educational standard of many of our medical colleges.

Opportunely, at this time, when there is manifested a general interest in the subject of medical legislation, we are supplied with this volume of the compiled laws pertaining to medical practice and registration in the United States and Canada.

The Ohio State Board of Health is not yet a recognized factor in the cause of reform.

Chemistry: Inorganic and Organic. With Experiments. (9)

For a number of years Bloxham's Chemistry has enjoyed a most enviable reputation as a standard text-book in all educational institutions. The work excels in giving clear and simple descriptions of the elements and their compounds, and, in his studies, the student is actually made to glide gradually along hardly observing that he is insensibly becoming familiar with the terminology and technical terms of this, to very many, dry study.

The illustrations are excellent and admirably adapted to the wants of the student in managing his experiments.

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6 By James E. Garretson, M.D., D.D.S., Dean of Philadelphia Dental College, Member of Philadelphia County Medical Society, etc. Illustrated with numerous steel plates and wood cuts. Fourth edition, thoroughly revised, with additions. Philadelphia: J. B. Lippincott & Co. 1884. For sale by Robert Clarke & Co. Price, $8.00.

7 P. Blakiston, Son & Co. For sale by Robert Clarke & Co. Price, $1.50. 205 pages.

8 Prepared by the Illinois State Board of Health and published by permission of the Board. Revised and corrected to March 1, 1884. Chicago: W. T. Keener. For sale by Robert Clarke & Co.

9 By Charles Loudon Bloxham, Professor of Chemistry in Kings College, London ; in the Department of Artillery Studies, Woolwich. From the Fifth and Revised English Edition, with two hundred and ninety-two illustrations. Philadelphia: Henry C. Lea's Son & Co. For sale by Robert Clarke & Co. Price, $4.25.

Original Articles.

THE PRESENT STATUS OF THE TUBERCLE—BACILLUS QUESTION.

A Paper read before the Cincinnati Medical Society, March 18, 1884,

By Eric E. Sattler, M.D., Cincinnati.

"We must not forget that there exists a boundary line between the purely speculative domain of our science and that of already accomplished and perfectly fixed, formulated facts. It becomes our task from time to time, to define this boundary with greater precision and exactness, in order that every one interested may know where it lies, and be able to say, '*this* is the realm of speculation, *that* of fact.'"

Words like these so ably spoken by the great scientist and philosophic physician, Virchow, appeal to us to pause, now and then in our hurried onward march of progress, and count the milestones by the way side.

We have just celebrated the second birthday of the tubercle bacillus. Fed on the nourishing winds of praise and enthusiasm, supported by the host of experimental investigators, it has in this short time become an important factor in all our deductions and reasonings, and assumed a foremost place in medical literature. We propose this evening to define its relations with tuberculosis, 1st, as to diagnosis; 2d, as to prognosis; 3d, as to treatment; 4th, as to etiology, and also to consider briefly the questions as to the contagiousness and inoculability of tuberculosis, hoping from an unbiased standpoint to be able, by taking into account the accumulated *facts*, freed from all speculative theorizing, to assign to the tubercle bacillus its proper place in our science. There is, perhaps, no subject in the whole range of medicine more grossly misinterpreted and less understood by the great mass of our profession than that now under consideration. Whether through ignorance of the real question under discussion, whether through preconceived notions and narrow trains of thought, there exists such a jumble of opinions, such a mass of misinterpreted facts, that it is difficult to extricate oneself from the meshes of this medical maze and assume a position which shall neither enroach too much on the favorite ground of the extreme enthusiasts on the one side, nor enter too far the sacred precincts of the germ iconoclasts on the other.

In dealing with the subject this evening, the *most important* contributions made within the last eight months will be considered more or less in detail, while those made within a year after Koch's announcement will only be referred to in a general way.

1. *Is the bacillus tuberculosis* (Koch) *of value in diagnosing tuberculosis?*

On no question in the whole controversy is there more unanimity than on this one. Extending over a period of two years, we have a continuous series of clinical demonstrations of the "tubercle" bacillus in pulmonary consumption. It was thus found, with very few exceptions, that the bacilli made known to us by Koch were present almost constantly in the sputa of those afflicted with tuberculosis, while they were absent in other lung troubles. An innumerable host of clinical microscopists have demonstrated this to us.

But not only have these micro-organisms been found in the sputa of pulmonary phthisis, but Babes, Rosenstein, Damsch, and others, have been able to demonstrate them in the urine of cases of supposed uro-genital tuberculosis, and have often been able to verify their results by post mortem investigations, finding unmistakable evidences of tubercular disease in all cases where bacilli had been found during life in the urine.

Bacilli (Kochii) have also been found in the fæces, and it is asserted only in those cases where tubercular ulcers were present in the intestine. Others have found them in the excretions of perfectly healthy persons, but their number is few.

One observer has found the typical bacilli, discovered by Koch, in the pus in an abscess occurring in ano in a person afflicted with unmistakable pulmonary phthisis, and he asks the question whether this observation may not throw some light on the supposed connection of phthisis with fistula in ano?

Demme has given us an interesting contribution as regards the diagnostic value of tubercle bacilli in childhood. Of 44 cases occurring in the Children's Hospital, in Berne, at ages varying from 18 weeks to 10 years, the sputa and fæces were examined for bacilli according to the most approved plan. 3 were cases of chronic tubercular infiltration at the apices; 10 cases of acute phthisis; 8 cases of tubercular caseous pneumonia, following measles or scarlet fever; 5 cases of chronic tuberculosis of the intestine and mesenteric glands; 5 cases of tubercular ulceration of the intestines; 5 cases of tubercular meningitis; 2 cases of chronic tuberculosis of the kidneys; 3 cases of acute miliary tuberculosis, and 3 cases of lupus. In all these cases the bacilli of Koch were found, either in the sputa or fæces (38 cases), or post mortem in the nodules of the pia mater (5 cases of tubercular meningitis), and in the kidney (2 cases of chronic tuberculosis of the kidneys).

Demme also reports an interesting case of ozæna scrophulosa infantum. A child 8 months old, suffering from ozæna, was brought to him for treatment. No hereditary syphilis present. No family history of phthisis. At the age of 4 months the child was put in charge of a family in which the husband was afflicted with acute pulmonary phthisis. 2 months after, the child began to suffer from ozæna. Examination revealed small yellowish-gray nodules on the Schneiderian membranes on the right side; adjoining the nodules, very minute lenticular ulcers, probably resulting from the breaking down of these nodules. The very offensive secretion was examined at various times, and unmistakable "tubercle bacilli" found each time. 5 days after admittance, the child, without any appreciable cause. was taken with general convulsions and high fever. With all the symptoms of an acute meningitis, the case progressed until 3 days after, when death took place. Post mortem examination revealed a meningitis tuberculosa of the base of the brain, numerous miliary nodules were found along the ramifications of the artery and vein of the Sylvian fossa, as also on the vessels on the under surface of the cerebral lobes, especially along the ramifications of the venæ cerebri periphericæ anteriores inferiores. No nodules in the substance of the cerebrum and cerebellum. No evidences of tuberculosis in the lungs or abdominal organs. No caseous centres anywhere. Sections made of some of the nodules found on the Schneiderian membranes, after the customary staining, revealed "tubercle bacilli." These were also present, in less numbers, in sections made of the nodules from the pia mater.

Demme now reasons, and this is the interesting part, that the case was, in the first place, one of tuberculous disease of the Schneiderian membrane, and as there was no evidence of an inherited tuberculous diathesis, it seemed very probable that a direct tuberculous infection of the mucous membrane of the nose took place, from contact with the foster father, who had phthisis. A further deduction would lead to the supposition of a secondary affection of the pia mater, the bloodvessels being the carriers of the infective matter—the bacilli. In this way we have the outbreak of the tubercular meningitis explained.

Some very interesting and, if substantiated, important contributions on the subject of tubercular ulcers of the tongue, were recently made at a meeting of the London Pathological Society. A number of cases were reported of ulcers of the tongue, where tubercle bacilli had been found—in some cases the ulcers preceding the pulmonary affection, in others coming on after the invasion of the lung with tuberculosis. It must not be forgotten that the superficial layers of the ulcer might take up bacilli from the sputa, the presence of which in the fluids and tissues of the mouth is a well known fact. It will be well to examine hereafter more carefully those ulcers of the tongue, palate, etc., for tubercle bacilli, especially in their deeper parts, in order to determine their connection with pulmonary phthisis.

Whether we are believers or non-believers in the germ theory of disease, whether we uphold or oppose the infectiousness of tuberculosis, whether we look at the tubercle bacillus as the cause of tuberculosis, or only as an effect or result; whether we regard the tubercle bacillus as a micro-organism, or as a fat-crystal, fibrin, or what not, no matter what our creed, no matter what our belief may be as regards this mooted question under discussion, we *must* acknowledge the following statements as truthful and reliable, fully substantiated by clinical and experimental evidence.

1. *The bacillus made known to us by Koch, when present in the sputum, if not absolutely pathognomonic, is a most valuable diagnostic sign of pulmonary tuberculosis.*

2. *In doubtful cases of phthisis pulmonalis, its presence or absence must be considered the criterion upon which to base or exclude our diagnosis.*

3. *The presence of "Koch's bacilli" in the urine is trustworthy evidence of tuberculosis of the bladder, kidney, prostate or testicle.*

4. *If found in the fæces, they seem to indi-*

cate the presence of tubercular ulcer of the intestines. More extended observations are necessary to make this an accepted fact.

5. What their significance is when found in ulcers of the tongue, the soft palate, etc., is still unsettled. Perhaps in the future they may become important differental factors between doubtful and puzzling lesions of syphilitic and tubercular character.

II. The importance of the "tubercle bacilli" as a means of diagnosis being thus conceded, we must ask ourselves the next very important question:

What influence do they exert on our prognosis?

Here the number of bacilli found is our prognostic guide. But we must not be hasty in our conclusions, basing them simply on one or two examinations. Repeated microscopical examinations, at definite intervals, for weeks and even months, are necessary to formulate a prognostic opinion. Thus the presence of a limited number of bacilli one day and a greatly increased one next day, has no significance, while the repeated observation of small numbers of bacilli or the opposite, would exert more or less influence on our prognostications. We might formulate the following statements:

1. *An abundance of bacilli, on repeated examinations, at the onset of the disease, denotes a rapid progress, and hasty termination if persistent. An abundance of bacilli, on repeated examinations, always signifies an active progress of the disease.*

2. *A scanty number of bacilli at the onset generally indicates a very chronic course.* (We must not forget that cases of acute miliary tuberculosis have been reported, with very scanty expectoration, and very few, if any, bacilli. Some observers even hold that bacilli are never found in the sputa of these very acute cases. Post mortem swarms of bacilli are, however, found in the tubercle nodules.) *Few bacilli, generally, augur favorably in others than very acute cases, and a complete disappearance of the bacilli shows that the tuberculous process has come to an end; a reappearanee, a fresh outbreak of the tubercular disease.*

When we approach those mooted problems of contagiousness and inoculability of tuberculosis, our task becomes more difficult of solution. The faint glimmer of suspicion of the contagiousness of phthisis that had already taken hold of the medical minds of the Middle Ages, seemed to have been transformed into a plausible reality by the discovery of Koch's contagium animatum—the so-called "bacillus tuberculosus." Not that others before him had not been able to find special germs for this disease, but rather that his unprecedented exact experimentation and logical deductions came at a time when the profession at large, already in a state of long-continued expectation, and constantly stimulated by renewed researches and discoveries in mycological medicine, was ready to receive and support, on the spur of the moment, all of Koch's propositions. In the first moments of toxic enthusiasm, the whole medical and a great part of the intelligent lay world were ready and eagerly willing to believe that, by the discovery of the bacillus, both the cause, and, at the same time, through it, the means for the prevention of the greatest scourge of the human race had been found. Calm afterthought, deliberate reasoning, reflection, and circumstantial evidence have no doubt by this time almost completely annihilated the fantastic aircastles of these scientific dreamers. How much still remains of this idealistic structure I hope the present paper will show.

I shall not waste time and words quibbling over pedantic distinctions between contagion and infection. Suffice it to say, that the common acceptation of the term contagiousness will be familiar to all. "*Is phthisis contagious?*" Debove, who has taken more interest in this question than all other French observers, is a strong advocate of the contagiousness of phthisis. "There is no spontaneous phthisis," he says, "and all persons affected owe their sickness to contagion." Vialette reports the following case: Jean, afflicted with phthisis marries a young woman named Antoinette, without any tubercular antecedents. Jean dies, and his wife becomes phthisical. She marries Louis; no phthisical history. Louis and Antoinette both die of phthisis. A niece of Antoinette, with no previous phthisical history, in nursing her aunt, becomes affected with tuberculosis, and, marrying, her husband, too, falls a victim to the disease, although there is no antecedent history of tuberculosis present. Another case is reported by Debove. A young girl, without any hereditary tendency to phthisis, nurses a phthisical relative some distance from home, and herself becomes affected with the disease. She returns home to her family and communicates the trouble to six of her sisters, with whom she lives in common. The seventh sister escapes, but she had no connection with the family, living far away from home. Villemin reports the history of a young woman who became phthisical at a boarding school without being able to say what had been the first cause of the trouble. She died; her sister inhabits her chambers and inherits her clothes; she dies of the same trouble. A third sister, at last, following in her footsteps, succumbs to the same disease. The best proof that heredity plays no *role* in this case is the fact that both parents still enjoyed good health at this time. The case reported above by Demme might appropriately be classed in the same category. Debove also gives the history of twenty-eight cases occurring in hospital practice, in only four of which there was hereditary predisposition; the others seemed undoubtedly to be due to direct contagion. We might give other instances of this kind, which would, however, vary but little in their history from those just cited. Probably every physician has met, in a practice extending over some years, cases which seemed to point to direct contagion, where hereditary and other influences did not appear to come into play.

On the other hand we have opposed to this small array of cases, the statistics of various hospitals all over the world, notably Brompton Hospital, opposing the contagiousness of phthisis; we have innumerable cases from private practice pointing to the same conclusion; we have the first report of the English Collective Investigation, committee where out of nine hundred inquiries, only about two hundred answers were favorable towards contagiousness, while 700 negated any such influence. These reports were gathered from physicians all over the British Isle and are valuable evidence. So far then, the *number of cases attributable to contagion is in the immense minority. Clinical evidence* does not favor the assumption of the contagiousness of phthisis. Does experimental evidence? Let us glance at the question of inoculability of tuberculosis for a few moments.

Since the days of Villemin scientific experimentors have been fighting for and against the doctrine of the inoculability of tuberculosis. Each party has arrayed its phalanxes of supposed experimental proof on this great battle field. In a few words the result of the controversy up to Koch's discovery may be summed up as follows: The inoculation both of tuberculous as well as non-tuberculous substances and even traumatic influences are capable of producing in various animals nodules of the same anatomical and microscopical structure. Koch by isolating and cultivating the tuberculo bacilli, inoculated various animals in different places with them and was able to produce in every case tuberculosis,—tubercle nodules which on microscopical examination contained tubercle-bacilli. Koch regarded these organisms as the cause of tuberculosis the *true tubercule-virus*. He placed no weight on the experiments made by investigators before him, who produced nodules by inoculating non-tuberculous and other matter, 1st, because no antiseptic precautions were taken and 2nd, because too long a period of time was allowed to elapse before the animals were killed so that a tuberculosis acquired by food, inhalation etc., could not be entirely excluded. Just here I should like to enter protest against the fanciful pictures of imagination made public by some English, Scotch and American writers, who tell us of the wonderful laboratory of Koch, and especially the good hygienic conditions, the well ventilated cages of the animals used for experimentation, the cleanliness etc. No one wants to detract less from Koch's glory than myself and yet it is time to cry halt to those over-enthusiatic of his followers, who will even see blemishes through the modefying influence of their vivid imagination and enthusiam changed into the very opposite. As a member of the German Association of Public Hygiene, I had amply opportunity of examining minutely the Imperial Health Laboratories at Berlin and was sorely disappointed. The rooms in which the animals are kept are underground, with little light, still less space and scarcely any ventilation. In one room where the mice, rats etc., were kept, the air was so stifling and offensive that it almost nauseated me. So much for the truth.

What seemed mostly demanded, then, just at this time was a thorough repetition and revision of former experiments with indifferent substances with all the known, necessary precautions. This has already been partly done, although it must be said, not to the complete satisfaction of all, Watson Cheyne made a series of recent experiments on rodents, performed under the best hygienic conditions with complete isolation of the animals from each other and thorough disinfection by heat of the instruments used. In six cases setons of various kinds were introduced either subcutaneously or into the anterior chamber of the eye. In ten vacinelymph was used, in three pyæmic pus was injected either into the eye or under the skin, or into the abdomen; in six, various materials, such as cork, hardened tubercle which had been soaked in alcohol, or worsted, were introduced into the abdominal cavity. In none of these rodents did tuberculosis result. Cheyne also made experiments with cultivations of bacilli obtained from Dr. Koch. He inoculated twelve animals with these organisms chiefly in the anterior chamber of the eye; all of them became tuberculous, and more rapidly than after the inoculation with tubercular tissue. The tubercle obtained from these cases was again inoculated and shown to be infective, causing tuberculosis in other animals and containing the tubercle bacilli, which were found to be most numerous when abtained from bovine tuberculosis and least so when taken from human tubercle.

At the request of Dr. Wilson Fox and Dr. Sanderson whose postive inoculations with non-tuberculous and other materials, were always looked upon as stumbling blocks in the theory of the specific character of tuberculosis, Mr. Dawson Williams undertook to repeat some of their earlier experiments with non-tubercular matter; care being taken to avoid contamination with tubercular material, but no antiseptics used. The repetitions of the experiments with putrid fluids gave entirely negative results, all the animals (guinæpigs) which survived the primary infective fever, (when this occurred) recovered entirely and when killed after varying periods presented no lesions either of a tubercular or pyæmic character. In seven guinæpigs setons were introduced but all animals remained healthy, and when killed were found quite free from disease. "It appears almost impossible to resist the force of these demonstrations and we are compelled to admit that there is a specific element in tubercle, the presence or absence of which determines the success or failure of the inoculation. This is apparently the tubercle bacilllus, but we must not exclude the possibility of other organisms playing a part in the process of tuberculosis." (Dr. Theodore Williams.) But even if non-tuberculous substances by inoculation produce nodules in various parts Koch holds, that this does not in the least conflict with his theory and arguments, for he says, only those nodules are tubercular ones which contain the bacilli. This assertion, however, is arbitrary and takes for granted that which is not yet definitely settled. Prof. Striker thus expresses himself: "I have examined the historical and experimental evidence of *Spina*, and find that the inoculation experiments of Dr. Robert Koch concerning the contagiousness of tuberculosis have not proved anything." Our question must then be answered:

1. *Clincial evidence is rather against than for the contagiousness of phthisis.*

2. *Experimental evidence so far does not warrant us to give a conclusive answer pro or contra.* Extended observation, careful repetitions of old experiments will be needed to disentangle conflicting results. Perhaps in the future the discrepancies now existing may be merged in one harmonious whole.

IV. When we consider the relation of the bacilli discovered by Koch, as to their bearing on the etiology of tuberculosis we can divide the conflicting opinions under five differents groups:

1. Those observers who hold that the bacillus stands in no relation whatever, with tuberculosis.

2. Those who maintain that the bacillus is the specific cause of tuberculosis.

3. Those who do not deny some influence of the bacillus, but affirm that it requires some predisposition, a suitable breeding soil, an individual receptivity or what not, to make its influence potent.

4. Those who hold that the bacillus is the effect, consequence or result of tubercular changes and not their cause.

5. The small number of those who hold that the organisms are the means only of a salutary elimination of morbid matter.

Dr. Henry Mac Cormac of London begins a small pamphlet on the Etiology of Tuberculosis with the following words (chorus of possible supporters of Dr. Koch.)

What is consumption? the bacillus!
What is the bacillus? consumption!
But what causes consumption? why the bacillus!
And what causes the bacillus? why consumption to be sure!

He stigmatizes Koch's discovery as

nothing more than a pathological curiosity and finds the true cause of consumption in rebreathed air, to whose sole agency the frightful prevalence of phthisis is owing. Phthisis, he says, is owing to the respiration of air fouled by prior respiration. It is this protracted respiration of air thus befouled, and not bacilli laden dust as Koch ingeniously imagines that induces consumption in sailors who repose in hammocks slung within eighteen inches of the ceiling, in the swarming between decks of ships of war, the frightful bunks of merchant ships, in soldiers in crowded barrack rooms, the shepherds of France who go to rest in shut up vans, the work people of Lisle in their horrid homes, the New Zealanders in sham houses without access during sleep to the outer air, and in the natives of Labrador when they come to occupy wretched dens on the St. Lawrence. There is no phthisis among the Bedouins of the desert or the Indians of the prairie, nor is there any as Dr. Morgan, and others have shown in the dwellers of the moist and misty Hebrides where the inhabitants live in houses of one room, with a central fire and hole in the roof, thus insuring a constant upward current and pure atmosphere day and night and always. M. Bouchardat believes that pulmonary phthisis is originated chiefly under the influence of general conditions determining a state of ill-health which has been called "physiological misery;" a deficient oxidation and consequent want of calorification due to insufficient respiration. In such areas of the lungs, the capillary circulation is arrested. At these sites, the lymphatic corpuscles placed under abnormal conditions acquire new functions and amongst others are metamorphosed into pathogenic bacteria: This is returning to the doctrine of heterogenesis so strongly upheld by Bastian, and implies not only a spontaneous generation of the micro-parasites, but also of virulent diseases. Beale, too, believed that particles of protoplasm derived from the living organism may be the germs of disease. It is, however, says Carpenter now held by an increased body of biologists and physicians to the effect, that the contagia of the several infectious diseases are due to the conditions by which they acquire their infective activity, even an innocent hay bacillus when sown in such media as broth only led to putrescence, and had no power of propagating its own kind within the human body, might under favoring circumstances undergo such a modification as to become the germ of severe disease. The lower forms of life adapt themselves to changed conditions of existence and the development of a mild or potent infection is in the main a matter of cultivation. This view is very different from that which is held by a certain class who maintain the *de novo* origin of infection. It is not a question of developement of a living organism out of matter independent of antecedent life, but the production by a process of evolution of qualities for harm in an already existing organism. Dr. Carpenter asserts that the potency of the several specific contagia which affect man depends upon the nature of the breeding ground. (Address before British Medical Association.)

Wm. Dale in speaking of the bacilli as the cause of consumption thus expresses himself: Despite the alleged discovery of Villemin and Koch, we can at present say that parasitism is the essential cause of pulmonary consumption. But the chief problem on the question of infection. I judge to be this, let it be granted that tubercle will produce tubercle in the rodentia and perhaps in other animals by inoculation and that no other substances would do so, does this prove that consumption is infectious? I think not; for cowpock produces cowpock by inoculation and in no other way; that is in no sense can it be said to be infectious; a similar analogy, but not so close is found in the poison of the snake and rabid dog; truly if experience on this subject is to be accounted of any value, it points rather to the dread predisposition to consumption which so widely prevails, as the one essential pre-requisite of the disease and not to the micro organism in question, not in fact to the theory, which (as Dr. Pollock observes in the Croonian Lectures of this year) has its avowed basis in experiment and not in clinical observation, and which is yet rather the fruit of the labnratory than of the hospital. Habershon in commenting upon the bacillus theory remarks that in consequence phthisis is supposed to be a disease directly communicable from one person to another. Whilst there is much to warrant this opinion let us bear in mind, he says that it is not as yet established, fuller facts will doubtless be brought forth by other observers and it is wiser to wait for clearer knowledge before we at once accept the opinions of these observers upon the data already made out. We desire to know more of the natural history of these bacilli, whether they are really animal structures, possessing individual life and advancing to fuller developement or mere fragments of living organisms about to pass into inorganic forms. Whence do these bacilli come to be found in the cells of tubercle and not leave traces behind them of their mode of entrance? Or are they the commencement of degenerative change in ill developed tissue?

The observations on the eye after inoculation made by Baumgarten and Aendt seem extremely important and appear to show that the growth of the bacilli preceded the characteristic histological changes, which would make it appear that these changes were the reaction of the tissues under the peculiar stimulus of the growing bacillus. After all they say, it might be shown that the activity of the bacillus may, when a broad view of the etiology of the disease was taken, be of secondary importance only. Debove thus sums up his view: Tuberculosis is always due to contagion and no one becomes tuberculous unless he receive from without the germ of the disease—the bacillus tuberculosus. This contagion is rendered possible or facilitated by particular disposition, inherited or acquired. But these dispositions act only in preparing the soil and rendering it fit for the multiplication of the germ. Kesteven N. B. and W. H. come to the following conclusion:

1. Specific differences of bacteria or bacilli as belonging to different diseases have not been conclusively demonstrated.
2. These organisms have not been found except in association either directly or indirectly with pre-existing disease of a degenerative nature and that therefore, they have not yet been proyed to be primary agents of infective disease.
3. The probability of the origination of phthisis from germs in the atmosphere is contraindicated by the immunity of large numbers of persons specially exposed to their agency.
4. It is probable that these germs reaching internal organs may be the means of a salutary elimination of morbid matter.

If we were to sum up in an unprejudiced way, we might say: *The relation of the bacillus to tuberculosis as regards etiology is not yet absolutely settled.* The majority of clinicians, practical physicians and perhaps even investigators seem to side with group three, those who do not deny some influence of the bacillus, but affirm that it requires some pre-disposition, a suitable breeding soil, an individual receptivity or what not, to make its influence potent.

Has the treatment of tuberculosis been affected much by Kochs discovery of the tubercle bacillus? Our answer must be *no* decidedly no. We had tried antiseptic inhalations before, and found them of little avail; we tried them again and were disappointed. Injections of antiseptic solutions were even directly made into pulmonary tissue by Fraenkel and others, but without encouraging benefit. Now we are experimenting with medicated chambers at San Remo and other health resorts; with what success time must show. We must tremble lest in the eager hunt for specifics against the bacilli, we lose sight of that most important factor, the pre-disposition, the soil upon which the bacilli seem to flourish. We may kill the bacilli and at the same time kill our patient, if we disregard this influential agent. Our treatment must be preventative, supporting, strengthening; it must be symptomatic. If I should express myself freely, taking into due consideration our present knowledge. I should say: Let the bacilli take care of themselves, let us take care of our patients.

Having thus, in as condensed manner as possible, in order not to take up too much time, called your attention to what seems the present status of the tubercle-bacillus question, I leave you to form your conclusions. Much subject matter has been omitted, many investigations ignored and side-issues left untouched which would not fall within the limits of the subject I assigned myself to-night. I could not close with more fitting words than those spoken by a well-known Englishman: "The science of pathology is advancing with rapid strides, but the fear is lest, by hasty generalization, its progress be retarded, and that hypotheses imperfectly established be used as the solid bases upon which to build explanations of disease and modes of treatment. The safeguard against these disastrous results lies in the plan adopted by Harvey in the study of the circulation of the blood—patient research, direct experiment, and exact observation. Every one interested in the advancement of medical science must, we think, desire that those hindrances which have been formed by mistaken sentimentalism may be laid aside, and that true knowledge may be promoted in all its beneficent purposes. The advancement of science is the pride of a nation and a benefit to the whole human race."

104 West 8th, st.

LEGISLATION AS REGARDS COLOR BLINDNESS.

An Address read before the Society of the Alumni of the Medical College of Ohio, March 7th, 1884.

By David DeBeck, M.D.,
Assistant to the Chair of Ophthalmology, Medical College of Ohio.

I wish to-day to devote a few remarks to color-blindness, that curious defect preventing the subjects of it properly distinguishing colors; and to call your attention to a subject upon which, I am firmly convinced, there exists urgent need for proper legislation.

Our first authentic cases of this defect date from the end of the last century; the case of the chemist Dalton, studied and described by himself, drawing most attention to this matter.

Many amusing anecdotes are recorded of the mistakes made by these color-blind persons. Dalton received the degree of doctor of civil laws at Oxford and this most modest and unassuming of men, endowed with a winning simplicity, wore the doctor's gown, a bright scarlet, on the streets for several days, in blissful ignorance of the startling effect he produced in that quiet academic town. Prof. Whewell asked him what color he thought the gown to be, and he pointed to the evergreens growing in the parks as of similar color. He had, however, modestly buttoned the gown tightly about him, because the lining, which was of pink silk, he imagined to be a sky blue.

It is recorded of a famous engraver that while a student at the Royal Academy, he was selected by the teachers, for his fine perception of form and his happy handling of light and shade, and advanced to the color class. A portrait by Titian, rich in vermillion and flesh tints, was selected from the National Gallery, assigned him, and he was placed in a small room by himself to copy it. His completed work was found to be magnificent in technique, but executed in a *pea green*.

And so dozens and scores of similarly amusing incidents are recorded during the first three-quarters of our century; all this having a tendency to relegate this subject to the domain of the scientifically curious. Only first was this subject made prominent and placed in the right light, as regards safety of person and property by land and sea, by the publication in 1877 of a work entitled "Color Blindness and its Relations to Railroads and the Marine," by Prof. Holmgren, of Upsala, in Sweden. This was rapidly followed by translations into French, German and English.

Before proceeding to this subject proper a word as to the theory of color. The theory accepted up until a few years since, the Young-Helmholtz theory, recognizes three elementary colors, red, green and violet; with three distinct kinds of fibres in the retina, each variety capable of transmitting the wave lengths, and producing the impression of its own special color and none other. The later theory of Hering recognizes four elementary colors, red, yellow, green and blue, associated in complementary pairs; red and green, and blue and yellow. In accordance with the older theory Prof. Holmgren and Dr. Jeffries, of Boston, with some others, recognize (besides *total* color blindness) a red blindness, a green blindness and a violet blindness. The adherents of the later theory, comprising now most of the authorities of note, recognize (besides *total* color blindness) two forms, a red-green blindness and a blue-yellow blindness. We find also, corresponding to these groups, cases showing only a diminished perception of colors; possessing, in other words, a feeble chromatic sense.

Now what proportion of the community is found to be subjects of this defect? This varies as regards males and females, the latter being singularly free from this anomaly. As regards males the per cent. found is strikingly uniform with various observers; only slight variations arising from race, social status, work, etc. Most observers find over three per cent., few reach five per cent., so that a general average of the tens of thousands of examinations that have been recorded, will show about four per cent.; in other words, one man in twenty-five is color blind to a greater or less degree. As regards females, records show about one-fourth or one-fifth of one per cent. that is, one in four or five hundred; at any rate, a very small proportion.

Now, how does this proportion, and that is the essential point, hold good among railroad men and pilots. We find the per cent. to be practically the same. Holmgren found among nearly 8,000 railroad men 2⅙ per cent. color blind; Fontenay, of Copenhagen, found among over 2,700 railroad employes 3 per cent.; Donders found among 2,300 railroad men in Holland 6½ per cent.; Krohn, of Finland, found among 1,200 5 per cent.; and among over 2,000 employes of the Pennsylvania Central 4⅛ per cent. were found color blind. Holmgren found among over 4,000 sailors 2¼ per cent. color blind; and Lederer found among over 1,300 men in the Austrian navy nearly 5 per cent.

All these observations also show red blindness and green blindness, or red-green blindness to be the common form; violet blindness or blue-yellow blindness being extremely rare. Now red and green (with white), either as flags or lanterns, have come to be the accepted signal colors of all railroads and vessels of all nations; and when we consider that no doubt about four per cent. of railroad men and pilots among us are unable to distinguish these colors, one from the other, we need nothing further to portray the danger to life and property.

The query may arise: How is it that with this condition so prevalent more accidents, directly attributable to this cause, do not occur; or why, that employes found to be color blind still accurately distinguish the signals? I believe were the whole truth always known, and this possibility constantly borne in mind, many more accidents could be traced to this source. Quite a number *have been* so traced.

This peculiar skill of these color blinds is explained by the remarkable skill they acquire in detecting variations in *shade*, or in *intensity* of lights. Now, light from a red lantern is less *intense* than that from a green one; and this again is less *intense* than that from a white one. These signals then appear, the white as a bright, intense light; the green as one of medium intensity; and the red as one of slight intensity, and their exquisite discriminative sense in this regard masks their defect. To these varying *intensities* of lights they learn to apply the proper (our) names.

A certain control, of course, would be exercised over a color blind engineer or pilot by the presence and aid of a normal seeing fireman or companion. But all this only lessens the dangers from this source; masks them; but does not do away with them.

Occasions might arise, with variations in the power of the light or color of the glass; dust; falling snow, sleet or rain; steam or fog; when this skill on the part of the color blind would prove inadequate and disastrous consequences result.

Now, on the one hand, the results of various methods of relief, education, etc., show that this color blindness is congenital and incurable; on the other hand, certain practical points make it almost impossible to give up or change our present signal colors. The only safeguard consists in eliminating from these posts all not possessing good color perception; and providing against the admission of such in the future.

The best method of testing is that devised by Prof. Holmgren, consisting in matching colored wools (1) with a test skein. A neutral green is selected, to this the red-green color blind places other greens, some neutral tints, grays and probably some reds, or *shows a tendency to do so*, or a *hesitancy* in differentiating, indicating *incomplete* color blindness. Or a pink (a color made up of red and blue) is taken; to this the red-green blind places blues, violets, or grays and greens. In all these cases, varying much in individual instances, mistakes in matching are made, mistakes sometimes rather startling.

Stilling's plates have also been employed, the principle here is the use of plates having letters of the test color printed on a ground of the confusion color. To the normal eye, these are easily read; to the color blind, letters and ground appear alike. A mere technical difficulty comes in to render this principle of less service, viz.: the almost utter impossibility of lithographing these plates so that the exquisite discrimination of the color blind does not detect differences in shade. Many color blinds do read these plates. For the same reason, colored papers and colored glass should be discarded; the wools give the best, simplest and most practical test.

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1 To be obtained from Wm. Wood & Co., New York.

Now, with this knowledge of the facts, this appreciation of the danger, and this possession of the means of detecting it, what should be our course? It certainly seems incumbent on us as citizens and as physicians to strive to direct such legislative action as will eliminate from the present force all employes deficient in color perception, and prevent future accessions of such. Not only must the present force be so freed and future accessions prevented, but periodic examinations must be provided for the following reason: We find, as a result of disease, an injurious influence upon the color sense. Normally all colors have not the same visual field. We find the fields for the various colors arranged concentrically about the fixation point; on passing outwards towards the periphery, we find first a curve limiting the field for green; then one limiting red; then yellow (usually); then blue; and then finally a curve limiting the perception for white objects. Now, in certain diseases, in diseases of the optic nerve, in diseases that may result from specific trouble, in certain injuries about the head, as a result of excessive use of alcohol and tobacco (and you will at once appreciate that here we have a group of diseases particularly liable to be found among the *personnel* of railroads and vessels), we find these fields lost in the same order; in other words (what is especially important in this connection), first a loss of green and then red. This liability to acquired color blindness renders periodic examinations very necessary.

The influence of Prof. Holmgren led the Swedish government to enact such laws. This was followed by similar action in Holland, Germany, Belgium, France and most European countries; so that now, abroad, this matter is generally considered and the proper safeguards provided.

Such rules, as regards pilots, could be enforced by the general government; the examinations, etc., being entrusted to the marine surgeons.

Such laws should be enacted by our State Legislatures; their enforcement could be entrusted to the Boards of Railroad Commissioners which, I believe, exist in all, or nearly all of the States; or to State Boards of Health.

The matter of examinations should present no great practical difficulty. Few lines of railroad in this country but what pass through, or have as termini, cities of sufficient size to possess physicians specially fitted to conduct these examinations. Then many roads have their own surgeons, who, with a little preparation, could fit themselves for this work. This lacking, nothing should prevent any intelligent practitioner from fitting himself, by a little special study, for this duty.

In our country, Massachusetts (due to influence of Dr. Jeffries) took the lead in providing a remedy for this state of affairs by enacting appropriate laws. She has been followed by Connecticut, New York and Pennsylvania, and I understand that the State Board of Health of Illinois proposes to give this matter proper attention.

In our Ohio Valley, traversed by a great river dotted with steamers, and covered with an intricate network of railways, carrying thousands of passengers and millions of dollars weekly; it behooves us, in the interests of the public, whose guardians we are, to strive to eliminate this danger.

Note.—Smithsonian Annual Report for 1877 (somewhat abridged translation of Holmgren's work).

Jeffries, B. J., "Color Blindness; Its Dangers and its Detection." Boston, 1880.

These two books are those most available to American students.

PROF. SEELY'S PRIZE EXAMINATIONS.

By C. W. Tangeman, M.D.

It has been a custom with Dr. Seely for a number of years past to offer a prize consisting of a gold medal to the student passing the best oral examination in ophthalmology.

It is always a lively contest affording a great deal of pleasure to the Professor and the whole class. It recalls reminiscences from away back when some of us were sitting on those hard old fashioned slab board benches of the country school house since the contest was conducted on the spelling match plan: which is a regular occurrence during the winter session of a country school: To miss a question means to step down and out, and the individual answering the last question carries off the laurels.

As may be seen from the following list of questions, the participants were well prepared for the contest. The greater the competition the more honor there is in being the successful man. For a time it really seemed as though it would be impossible to floor some of the candidates, until questions were asked that really belonged to the practical specialist, and not to a recent graduate.

QUESTIONS.

1. How many bones enter into the formation of the orbit?
2. How many are common to both orbit?
3. What bone froms the apex?
4. In what part of the spheniod do we find the optic foramen?
5. How many walls has the orbit?
6. What forms the roof?
7. What forms the outer wall?
8. What forms the floor?
9. What forms the inner wall?
10. Give the communications between the brain and the orbital cavity.
11. What structures pass through the optic foramen?
12. What passes through the sphenoidal fissure?
13. Give the direction of the optic nerves?
14. Give the three divisions of optic tract?
15. What do we find at the lower and inner angle of the eye?
16. What does it contain?
17. In what bone do we find the larger portion of the nasal duct?
18. What sort of a bone is the inferior turbinated?
19. Give direction of nasal duct?
20. What is the peculiarity of the eye lid, compared with the skin found else where?
21. What do you mean by epiphora?
22. What effect would paralysis of the facial nerve have on the eye?
23. Why would the tears not be carried off?
24. What kind of a muscle is the orbicularis?
25. What nerve inervates the levater of lid?
26. What structure gives form to the eye lids?
27. Is it real cartilage?
28. How many meibomian glands do we find in the lid?
29. What do you call a turning out of the eye lid?
30. What a turning in?
31. Give the divisions of the conjunctiva?
32. Where does the optic nerve enter the eye ball?
33. What is the outer sheath surrounding nerve called?
34. What becomes of it?
35. What is the condition of the sclera at the entrance of optic nerve?
36. What is the optic nerve entrance called?
37. What do you mean by retina?
38. What is the anterior limit of retina called?
39. What function does the choroid perform?
40. What is the lamina fusca?
41. What is peculiar about the exit of the vessels from choroid?
42. What is their technical name?
43. What do you mean by the supra choroidal space?
44. What sort of a space is it?
45. What is this space lined with?
46. How do the lymph vessels get out of the space: What for?
47. What is the origin of the ciliary muscle?
48. Where is it inserted?
49. To what is the action confined exclusively?
50. What takes place at the commencment of ciliary processes?
51. What becomes of the outer half of the division?
52. What do you mean by the zone of Zinn?
53. When the ciliary muscles contract, what takes place?
54. What occurs?
55. What is the result?
56. What else takes place?
57. Is there any thing known, what takes place at the posterior surface? (of lens).
58. What is meant by the Catoptric test?
59. How is the middle image produced?
60. How is the posterior image produced?
61. Does any change take place in the posterior position of lens?
62. What takes place in regard to middle?
63. What anterior? (image)
64. How is the anterior image formed?
65. What forms the middle image?

What is the relation of the size of the image, with regard to the radius of curvature?

66. What do you mean by refraction?

67. Upon what does it depend?

68. What in a general way varies the refractive condition of the eye?

69. What is meant by a normally constructed eye?

70. Suppose you have abnormalities in the vitreous, could it be called a normal eye?

71. Opacities of the cornea, would it be a normal eye.

72. What is a hypermetropic eye?

73. How may it be acquired?

74. What becomes of the rays of light in a myopic eye?

75. What is necessary to make a myopic eye see accurately?

76. How much can a myope's vision be improved?

77. What occurs when myopes accommodate?

78. Why does it make his vision worse?

79. What do you mean by the accommodation of the eye?

80. What brings about this effect?

81. What is meant by a voluntary effect?

82. Through what is it carried out?

83. What nerve supplies the ciliary muscle?

84. What is associated with the accommodation act?

85. What is the difference in the strength of the internal and external muscle?

86. How would you correct insufficiency of internal rectus?

87. How would you use prisms to lessen the strain on the internal muscles?

88. What sort of a glass do we use to correct hypermetropia?

89. Why use a convex glass?

90. On what principle does the action of the convex glass depend?

91. How might you make use of a strong concave lense to act as a prism?

92. What is astigmatism?

93. What is the shape of the image?

94. In what structure is regular astigmatism produced?

95. What is irregular astigmatism?

96. Where is it produced?

97. What do you mean by hypermetropic astigmatism?

98. Why do we see stars, as stars?

99 On what is the cause dependent?

100. In what structure is this defect made?

The last question was answered by J. M. Withrow, who was greeted by his fellow students, and complimented by his teachers as having passed an exceptionally good examination.

393 Elm Street.

Society Reports.

ACADEMY OF MEDICINE.

Meeting of March 17, 1884.

W. H. WENNING, M.D., *Pres't in the Chair.* DR. G. A. FACKLER, *Secretary.*

Carcinoma of the Breast.

DR. CONNER, introducing the subject of carcinoma of the breast, the discussion of which had been continued from the last meeting, stated that cancer of the breast was, with few exceptions, a disease of advanced life. This fact is not surprising, since in older individuals, as the connective tissue wastes, the epithelial grows more rapidly, and hence favors the development of carcinoma. We meet with cases in individuals thirty-five years of age, but more frequently in those over forty years. The breast and uterus undergo senile changes earlier than other organs of the body, and not until these changes are fairly under way does carcinoma show itself. Theories are but theories and not satisfactory to any one. That of Creighton is, perhaps, a plausible one. He attempts to show that carcinoma depends upon an arrestation in the changes going on in the breast epithelium. The cancerous growth well developed, we have the consequent involvement of the glands, due to the transference of the disease along the lymph ducts. Speaker had seen cases in which a hard cord could be felt running to an enlarged gland. This reproduction in the lymphatics may be due to direct infection, to a substitution of cells, or to a cancerous cell becoming arrested in a lymph gland and there developing.

Speaker wished to emphasize that every tumor occupying the breast of a woman going down hill should be regarded with suspicion. The warning should be heeded and the growth extirpated. The carcinomatous growth may involve any portion of or the entire gland, it may involve the over- and underlying structures, or leave the breast moveable for a long time. The slightest nodule should put us on our guard. The lymphatic glands may be apparently clear for years after the tumor has been noticed. As a rule, the glandular enlargement occurs early in the progress of the disease. In almost every case, if the axilla be thoroughly searched, one or more affected glands can be detected. The trouble progresses with greater or less rapidity, involving the skin and axilla, disseminating through the body, and the patient dies from the involvement of the vital organs, or from the exhaustive discharges.

The speaker believes the affection to be primarily a local one, confined to a limited area.

The disease is naturally transferred, and before a long time has elapsed, distant parts have been affected. If the tumor could be removed early, the patient's life could be saved, but the majority of women dread so much the idea of being the subject of such an affliction that they conceal their trouble for months, even years, and only apply for treatment when, as a rule, considerable growth has taken place, and secondary manifestations can be detected. If the case progresses until constitutional involvment occurs, no hope for recovery can be offered. When the case can be gotten at early, the operation performed should be a radical one. Statistics, often are unreliable, and, in some instances, have been intentionally made so. Either the diagnosis has not been correctly made, or the results as stated are untrue. Even when efforts at the truth are made, many a case is reported where a perfect cure is supposed to have been effected, and in which a relapse has occurred unknown to the operator. But, as far as we can judge, early operations may save. The speaker is certainly in favor of an early and complete operation. It is better to err on the side of safety, and remove a suspicious breast, than to allow the tumor to develop until it is too late.

Dr. Ravogli said, the older physicians classified cancer according to the appearance of various cases, *Κάρϰινος*, *Σϰΐῤῥος*, and *Χαϰοήδες*. Velpeau makes the following classification: Scirrhous encephaloid, cancer, fibroplastic, melanodes, exulcerans anomalous, and according to their appearance, into globeux, lenticularis, ramificatus, en cuirass. When the gland has become extensively involved, becoming adherent to the pectoralis muscle, it is called cancer en masse. We find in these cases that the tumor is movable as long as the pectoralis is at rest, becomes immovable, however, as soon as the muscle is contracted. There are cases in which we have one sore, about two inches in width, with hypertrophied edges, running deep into the gland, in which a tumor the size of an apple can be felt. In both of the last mentioned cases, relapse is certain. Albert reports a case in which, one or two months after the operation, the disease recurred in the scar, which had not completely cicatrized. The atrophic cancer occurs in elderly women. In the lenticular variety both skin and muscles are attacked. In this also, there is little hope of recovery, the patient dying frequently of septicæmia. Carcinoma en cuirass speaker has seen twice in this city. In one patient the right breast was affected, a mass of nodules extending from the clavicle to the abdomen, and varying in size from a walnut to an apple. The patient was suffering fearfully from neuralgia, due to an involution of the little ganglia near the nerves. An operation was out of question.

Dr. Reamy said: that an early operation is necessary in carcinoma of the breast is well known, but not acted upon. That in addition to the reluctance of women to confess the presence of a nonplasm in the breast, there is even now a disposition on the part of otherwise conscientious and intelligent physicians to neglect such cases, and tell the patient not to interfere. They practice but superficial examination, and tell the patient to return in three or four months. This is true, unfortunately, without regard to the age of the patient. Carcinoma rarely attacks very young persons, but, in most instances, is found in individuals about forty years of age. It ought to be the duty of every physician, in the face of the fearful mortality attending the progress of the disease, even under the most favorable treatment, to diffuse the truth as to its curability, and to ferret out every case, in the hope of influencing it to submit to an early operation. There is danger of making a mistake should carcinoma be excluded in the diagnosis, especially if the tumor is hard. Even if carcinoma is excluded, no trouble is experienced in removing the breast or obtaining good results, and hence the operation should be performed. Speaker believes absolutely with Dr. Conner that carcinoma is primarily local. Such facts as that 97·8 per cent. of cases occur in women, and that men are not subject to cancer of the mammæ, or that 80 per cent. occur in married women, prove nothing against the theory of its being a local disease. On the other hand, it is an acknowledged fact that in an enormous per centage of cases we can trace in the history of the case an attack of puerperal mastitis, fissured nipple, eczema of the nipple, or injury sustained by the organ, establishing a direct or indirect traumatic origin. Nor can we disprove the local origin by granting the presence of elements preparing the development. Hereditary predisposition can be transmitted, and no sign of the disease become manifest until irritation occurs. All theories may be harmonized. Every practitioner ought to urge the patient to submit herself to the surgeon's knife. It is well known that even in this State it is the practice of some surgeons to make an incision around the nipple, and take out a portion of the gland, leaving the tissue where the disease is again easily developed, so that even when early performed, the operation is not properly performed. It is an essential feature of most carcinomatous growths that most active vascular and lymphatic communication exists at the margin of the tumor, and hence it is imperative to remove the surrounding tissue. No doubt the doctrine is true that should the tumor be subjected to an early and complete removal, statistics would be changed in the interest of the patients and to the credit of surgery.

Dr. Young stated that scirrhus of the mamma appeared in various forms. In one case we have a simple deposit in the breast, in another the entire organ is involved, and in a third form, to which Brodie refers, both the gland and skin become involved, the latter presenting a roughened appearance. The nipple is retracted, and the lymphatics are suddenly attacked. Speaker cited a case in which the disease appeared in summer, advanced rapidly, extending to the axilla, the patient dying the following winter. He cited another case, in which diagnosis of carcinoma had been made, but Dr. Mackenzie examining the pathological specimen some time after the death of the patient, pronounced it a sarcomatous growth. It is hence a question in the speaker's mind whether cases presenting such an appearance as described above are not sarcomatous. There is another kind, in which a spontaneous cure is effected by atrophy of the gland. He remembered a case in which the breast had become extremely involved, and yet, ten or twelve months after he had first seen the patient, the tumor had entirely disappeared. As to treatment, speaker favored, in almost every instance, immediate removal, for if the disease does return it will attack a vital part, and patient will die easily. The operation, when early performed, should be thoroughly performed. When the axillary glands have become much infiltrated, attaining the size of a walnut, much hope can not be offered, since a thorough dissection can not be made among the vessels and nerves of the axilla: In regard to local treatment, speaker advised pressure and ice, where there is much suffering, and where an operation cannot relieve. For the severe neuralgia more relief can be obtained from the application of ice and pressure than by the administration of opiates. Believes with Dr. Conner that the disease is without doubt primarily a local one, passing from point to point.

Dr. Reamy desired to ask two questions, viz:

1. Why is it that robust, fat women, who are victims of carcinoma of the breast, die earlier than those of a different type of constitution, that in these women metastases occur sooner, and the lymph glands become involved earlier?

2. As the tumor progresses in its growth, and becomes more and more hard, a certain number of epithelial cells within the fibrous walls probably undergo fatty degeneration, due to pressure. Is this cell, after it has been absorbed, a contaminating element?

Dr. Walker answered the first question by stating that persons of the type referred to were generally attacked by the soft medullary cancer, which is more acute and maligant than scirrhus. In regard to the second question, he wished to say that it was impossible for any cell which had undergone fatty degeneration to have any effect as intimated by Dr. Reamy. The protoplasm of the cell is destroyed, and can not transmit disease.

The speaker classes carcinoma among constitutional troubles. He does not believe that any one has ever operated upon a case in which the disease has not recurred if the patient lived any length of time after the operation. Thinks it is local no more than syphilis, but is constitutional, with local manifestation. No matter how soon you operate, sooner or later the result is fatal.

Dr. Ransohoff said that pathologically a line separating scirrhus of the breast from epithelioma of the lip and tongue could not be distinctly drawn. In epithelioma of the lip and tongue we have room for spreading, while in scirrhus of the breast the disease is confined. Epithelioma of the tongue is a most maligant trouble, killing within one or two years. It is strictly a local disease, but cases certainly do recover, and good results are obtained. Cases of scirrhus have been reported in which no mistake in diagnosis was made, in which favorable results were obtained, and the patient lived a long time after the operation. He would again refer to Dr. Mussey's case, which he cited at the previous meeting. Dr. Forchheimer had spoken to him of a case operated upon ten years ago, the patient still living. If the views which Dr. Walker expressed were generally entertained, no patient ought to be subjected to the mutilation and mental suffering entailed by the operation.

Dr. Conner claimed that Dr. Walker, though backed by knowledge and authority, was wrong if he states that cancer is without hope from its very beginning, or that no man in the room had ever seen a case recover. One of the gentlemen present had reported a case in which recovery took place. The speaker saw his own patient, who died of apoplexy, recover, and no symptom show itself during life. Believes that if the growth is removed early the patient's life can be saved. No arguments can be brought in favor of the constitutional theory of the disease, except its recurrence and hereditary tendency. If the latter proves the theory, then lipoma is equally a constitutional disease. For its percentage in regard to heredity, is heavier than of cancer. If recurrence proves it, then cartilaginous tumors are of constitutional origin.

The only possible hope for the patient lies in the local origin of the disease. If we teach the community that an early operation will save, the percentage of unfavorable results wlll decrease.

The therapeutic effect of boldo leaves, imported from Chili, is claimed to be similar to that of coca. In the hospitals of Paris it has been used with perfect satisfaction in affections of the liver and in gallstones. The drug is best administered in the form of a concentrated tincture or elixir, that contains all the active principles. —*Répert. de Pharmacie.*

CINCINNATI MEDICAL SOCIETY.

Meeting of March 4th, 1884.

B. STANTON, M.D., *President.* W. H. M'REYNOLDS, M.D., *Secretary.*

REPORTS OF CASES.

Loss of Taste and Smell.

Dr. McReynolds reported the following case:

In the early afternoon of October 21, 1883, D.J., aged thirty-two, fell from a scaffold, a distance of forty-seven feet into an area. He was taken up in an unconscious state and removed to the Cincinnati Hospital, where he remained until the next morning, when he regained consciousness. He now insisted on being taken home, and his family yielded to his wishes contrary to the advice of the physicians at the Hospital.

Nausea and some vomiting continued until 9 o'clock a.m., when he sat up and conversed freely with his family and friends about the accident. He said he felt so well that he and his family thought it unnecessary to send for a physician. About the middle of the afternoon he began to suffer from severe headache and the nausea and vomiting returned. The speaker saw him at this time. His tongue was covered with a dirty brownish coat, pulse 50 to the minute and feeble, temperature normal. The pupils neither contracted nor dilated, and responded sluggishly to the action of light. Respiration slow, but the patient was so restless it could not be counted very accurately. His thirst was very great, demanding a drink of water every few minutes. A small scalp wound was found at the superior posterior angle of the right parietal bone. There was not enough tumefaction to interfere with a careful examination of this wound and the adjacent parts, and no sign whatever of fracture could be discovered. The pain, he said, was intense and increasing, and located at a point exactly opposite to this wound. Whether this pain was due to counterstroke or the result of direct violence could not be determined, as there was some tumefaction and ecchymosis covering this point and extending over the left eye and temple. His bowels had been moved freely and his urine passed during the night. Nausea was constant and efforts to vomit very frequent. No sign of paralysis appeared and the strength of grip in right and left hand was good and about equal. Anodynes and cold to the head were directed. At 7 o'clock in the evening his condition was much the same with delirium added and increased jactitation. He would recognize persons and answer questions briefly while his attention was held, but immediately after answering would fall off again into delirium. Under the influence of morphine he dosed from five to ten minutes at intervals of half an hour. At 11 o'clock p.m. there was no change. Dr. Goode saw him with me this time and we agreed upon an unfavorable prognosis. A cathartic of ten grains of calomel, given at this time, produced a free evacuation of the bowels next day.

October 23. During the night of the 23d he had several naps of fifteen minutes. The vomiting gradually diminished in frequency and on the 25th had entirely ceased. The delirium continued for eight days and the patient was at times violent, resisting the efforts of his attendants to keep him in bed. Active cathartics were required to move his bowels, his urine passed slowly and was scant in quantity. The specific gravity of the urine was 1030. It was acid in reaction, contained no albumen, and showed nothing abnormal under the microscope.

His pulse rate continued at 50 nearly all the time until the 30th, sometimes becoming a little more frequent for a short time. Twice the speaker found it 60 but it declined each time before his visit terminated. On the 30th the patient became more rational and showed signs of improvement in every respect. His pulse was 60 and his appetite returning. On the 31st the pulse was 67, and Nov. 1st it rose to 70; his urine passed freely and his bowels moved naturally. He still complained of some headache and dizzyness, but this grew daily less, and his improvement from this time was gradual but without interruption. His temperature had been normal throughout and no paralysis appeared. His hearing had been defective for some years, but while suffering from the accident the difficulty was notably increased. Since his recovery he hears as well as before the accident. After the delirium subsided and his appetite began to return he observed that he had neither the sense of taste nor smell. After he had so far recovered as to resume his daily occupation, to use his own language, he could not tell the difference in taste between a chew of tobacco and a piece of apple, nor could he detect the strongest odors. He has chronic nasal catarrh but it is very slight, only amounting to a moderate thickening of the Schneiderian membrane with an inconvenient hypersecretion, but never purulent, and never interfering with the sense of smell. The sense of smell and taste were always normally acute until the accident, after which he noticed their loss, and the loss seems to be permanent.

At this date (March, 1884), he can only taste very pungent or sour articles and can smell nothing.

Typhoid Fever.

Dr. Goode reported a case of typhoid fever terminating with symptoms of perforation of the bowel and consequent peritonitis.

The patient was a young man, fifteen years of age, well developed and of previous good health. The speaker said there was nothing unusual in the case except the great disparity of pulse rate and temperature. The afternoon temperature reaching 105⅕° F. while the pulse was 96 per minute. The perforation occurred at the end of the third week. Fever had almost subsided and indications were favorable for a rapid convalescence. Death took place seventy-two hours after the accident. No autopsy was allowed.

Small Polypus.

Dr. Eichberg reported the removal of a small polypus from the vocal cords and presented the specimen. The patient had suffered for four months from hoarseness, which was attributed to a cold. The polypus extended from the right vocal cord across the glottis. The patient's larynx was so sensitive as not to tolerate the contact of instruments until after repeated trials. The polypus was soft and attached by a broad base. It was removed by forceps and improvement was immediate. Nitrate of silver was applied and the patient was able to sing next day.

The same patient had a nasal polypus previously which interfered with vision. The speaker had removed this and vision improved.

The specimen presented by the speaker was a very small polypus, but capable, as he said, of producing great inconvenience in this situation, on the vocal cords, both by mechanical obstruction and by preventing the vibration of the cords.

Dr. Davy said he had seen a small polypus of a firm fibrous character on the under side of the vocal cords of an old lady. The polypus greatly interfered with speech and he had attempted to remove it, but the larynx was so sensitive that he failed to grasp it with the forceps and was compelled to let it remain. Nitrate of silver was applied with no other effect than to excite violent spasmodic contractions of the glottis.

A Ramrod in the Brain.

Dr. Fisher read the following translation:

Under the title "A Ramrod in the Brain—Recovery" (*Deutsche Zeitschrift f. Chir.*), Dr. Fischer, of Hanover, relates the following case: By the premature discharge of a rifle the ramrod was shot into the back of a laborer, seventeen years old, passing out on the top of the head. The rod was fastened so firmly that the patient was dragged some distance over the ground during an attempt to extract by pulling. Patient was said to have lain motionless in the beginning, with closed eyes, rattling in the throat, not answering questions. A physician arriving soon after found that he had vomited, suffered with nausea, but answered questions correctly. He was then sent to a hospital, about four miles distant, where he arrived three and a half hours after the accident. Fischer found that the rod projected from a point eight centimetres above the left *for. supra-orbital*, to a length of thirty centimetres in an oblique direction towards the left, firmly encircled by the skin and no bleeding. Upon the neck, below the angle of the right jaw, a hard painful swelling was noticed. Between the right shoulder-blade and the spine, opposite the fourth costal vertebra, a gunshot wound was found of the size of a penny and with blackened edges. The coat showed a corresponding larger hole, likewise the vest, and the hat a smaller one. The patient gave correct answers, narrated the incident, was able to stand, but felt weak and lay mostly with closed eyes. He complained of pains in the head and upon the right side of the neck; could not see as well as usually; vomited some blood; sputa blood; pulse arrhythmic, 60; breathing and respiratory sounds normal. As the ramrod had the usual button-like expansion on the lower end, extraction had to be made from this point. Without injury to the bloodvessels the button was brought to view by an incision upon the neck six centimetres in length. The rod was then loosened in the cranium by an incision through the skin and enlarging the hole in the bone, which was not fissured, with a hammer and chisel. The rod was then driven downward by some sharp blows of the hammer upon the upper end. By this manipulation the button was driven deeper into the soft parts, against which a change of position availed nothing, so that enlargement of the incision of the neck had to be made by another incision sideward, thus forming a flap which could be drawn aside. It was now possible after several more blows with the hammer, twenty to thirty in all, to carry the lower end over the clavicle and finally withdraw the rod by traction upon the lower end. There was no bleeding; the wound was disinfected, sutured, drained and the Lister bandage applied over all wounds. The patient was conscious during the whole proceeding, no narcosis being used. The following day he was restless, vomited, lost sight of right eye, although the bulb was normal. Altogether the healing process ran its course without any remarkable disturbance and on the thirty-fourth day the wound of the skull had healed. Examination of the right eye showed the refracting mediums intact, the papilla had irregular outlines, was opaque, of whitish reflection, somewhat retracted; the bloodvessels were thinner than upon the left eye and atrophic in character. The patient was discharged well on the sixty-eighth day.

Eleven months later the man was able to perform hard labor, to dance, etc.; the right eye remained amaurotic. One remarkable symptom of the case was that the patient could not remember what had happened from the time he had been shot until several weeks thereafter; he knew nothing of the operation, nor even how he came into the hospital, although, as above stated, he was perfectly conscious during the whole time.

Experiments were made in Göttingen, under the direction of Professors Henle and v. Brum, to define the course of the rod. From these and the symptoms of the case the following course was determined: After entering the back on the right side of the spine, opposite the fourth costal vertebra, the rod passed between the *mus. splenius cervices* and *m. levator scapul.* without injury to the thoracic cavity. It then passed to the front of the *ven. jugul int.* and the *art. carat. comm.* near the bifurcation; behind the *m. sternocleido mastoid*, the posterior belly of the *m. biventer*, the *m. stylohyoid.* and *m. stylogloss.*, avoiding important bloodvessels and nerves, also the pharynx, but grazing the right tuba. Behind the posterior edge of the median root of the *process pterygoid*, the rod passed into the cranial cavity, crossed the right *sin. sphenoid*, passed through the right canalis opticus, then upon the limbus sphenoidalis, from whence it struck the right gyrus, then passed between the hemispheres upward on the left of the falx cerebri. The further passage then lay between the two gyri fornicati and immediately in front of the anterior edge of the *gen. corp. callos*, through the left *gyri frontal*, and out through the frontal bone. The fortunate termination of the case was no doubt due to the fact that no important vessels, nerves or portion of the brain had been injured.

Meeting of March 25th, 1884.

B. STANTON, M.D., *President.* W. H. MCREYNOLDS, M.D., *Secretary.*

The Present Status of the Tubercle Bacillus Question.

DR. ERIC E. SATTLER read an essay on the above subject. (See page 409 of this issue.)

DISCUSSION.

DR. COMEGYS, after complimenting the essayist upon the very thorough manner in which he had presented both sides of the subject, said he had seen one case of suspected phthisis in which the search for bacilli was fruitless. He regarded the question as wholly unsettled as yet, but could not doubt the truth and value of Koch's experiments, as verified by English, French and German investigators.

He did not consider phthisis contagious, nor did he think the nature of the tubercular globule yet determined.

DR. EICHBERG said there had been much discussion and many views expressed concerning the nature of tubercle at the Medical Congress of 1881 in London. Some regarded it as a new product or the result of obscure inflammation. Regarding its contagion and mode of transmission, if contagious, quite as great diversity of opinion prevails. No bacilli have been found in the air of tuberculous patient's rooms, none in the breath of the patients, nor in the air forced through their sputa. Therefore, the transmission is not likely through the medium of the air. This may be the reason of the immunity of the patients of Brompton Hospital. If tuberculosis is contagious, why do not pathologists and butchers become inoculated? The death of the subject does not seem to destroy the life or diminish the activity of the bacilli.

The skin seems to be acted on differently from the mucous membrane. The peritoneum also develops tubercle more readily than the skin. It is not possible to introduce bacilli by vaccine crusts. This is a very important point, for, if it were possible, the danger would be more difficult to guard against than that of syphilis.

DR. DAVY said that while no bacilli are found in the air nor the breath, they are found in the sputa, and the sputa drying on the floor rises in dust, and thus may infect the air at times. He did not think tubercle easily inoculated. There must be a susceptibility or vulnerability of the subject.

DR. SATTLER said that plates of glass moistened with glycerine and hung in the flues of Brompton Hospital were found loaded with bacilli.

DR. CARSON said: As a sequel to his remarks on the case of gangrenous abscess of the lung, he had procured some of the sputa and found it loaded with bacilli. This was the only feature pointing to phthisis. The patient had a son who died of phthisis, but no other history of the disease could be discovered in his family. He had recently seen this patient; he has gained in flesh and strength, and there is no evidence of a cavity in his lung. As a matter of prognosis, a great number of bacilli was thought to be unfavorable, but in this case their presence did not serve as a guide.

In another case of cough, with expectoration and fever, although there was no family history of phthisis, a few bacilli were found. In the last three weeks the cough has entitely disappeared, and the patient has gained in flesh, and seems quite well.

These cases seem to be exceptions. The speaker said he was not prepared to adopt extreme views.

He mentioned a third case which he had seen with another physician. They agreed upon the diagnosis of phthisis, and made an unfavorable prognosis. A third physician was called, and he, finding no bacilli, said the disease was not phthisis, and the patient would get well. The patient died in three weeks.

We must not lose sight of the well known characters of phthisis. Children inheriting this disease are apt to go off at ages from eighteen to thirty-five. He feared we would make too little of predisposition, and too much of bacilli. Infection may be a secondary element, but there must be a predisposition, plants must have their soil and animals their climrte in order to develop.

Dr. Eichberg said as the last speaker had called attention to clinical facts that negative the causal agency of the bacillus theory, he would mention certain pathological facts which are potent in the same direction. Phthisis is of several different kinds, and if contagious, the bacillus of each variety should reproduce its kind, but this has not been proven to be the case.

Woman's Place in Nature.—If the result of the highest vitality is the most perfect product, we can scarcely refuse to the female the advantage over the male. It appears to be a well-established fact that an important source of sexual determination is nutritive as far as ovum development is concerned; that is, when the force becomes partially exhausted, the result is the production of males; when the ovum is in the maximum of sexual potence, then the production is invariably females. Does not this seem to indicate that there is something finer, subtler, more perfect, in the organization of woman?

Ferry-Boat Amenities.—A Chinaman came into the ladies' cabin on the ferry-boat and took a seat beside an Irish market woman. He seemed to want to make himself agreeable, and, rubbing his hands, remarked: "Belly cold." The woman looked at him with an air of contempt, and replied: "If you'd put your shurt inside your pants your belly wouldn't be cowld, you haythen blaggard."—*Exchange.*

"Oh, Professor," exclaimed sentimental old Mrs. Fishwacker, during a private organ recital in her new music room, "do pull out that sweet nux vomica stop once more!"

THE CINCINNATI

LANCET AND CLINIC

A Weekly Journal of

MEDICINE AND SURGERY,

Issued every Saturday.

Terms, $3.50 per annum in advance.

☛ All letters and communications should be addressed to, and all checks, drafts, and money orders made payable to

DR. J. C. CULBERTSON,
Editor and Publisher,
281 W. 7th Street, Cincinnati, Ohio.

Subscribers to the Lancet and Clinic who have not already remitted their subscription will confer a favor on the publisher by promptly doing so

Cincinnati, April 5, 1884.

The Week.

Academy of Medicine.—At the next meeting, Monday, 7th inst., Dr. P. S. Conner will introduce the subject of "Gun-shot Wounds," illustrated by cases as they occurred during the late "uprising" in this city. Drs. Young, Ransohoff and others will also make contributions to the subject. The profession is invited.

The regular quarterly meeting of the Illinois State Board of Health will be held at the Grand Pacific Hotel in Chicago, beginning on Thursday, April 17th.

At this session candidates for certificates will be examined, both non-graduates, who must undergo an examination upon their preliminary education, as well as in the usual branches of medical study; and also graduates of colleges which have not fully complied with the schedule of minimum requirements adopted by the Board in 1880, and in force from and after the session of 1882-3.

The Medical Society of the State of West Virginia will hold its Seventeenth Annual Session at Clarksburg, commencing at two o'clock p.m., Wednesday, May

21, 1884. The last meeting of the Society was rendered more than usually interesting by the intelligent discussion of the papers read. That the meetings may be made as profitable as possible to all who attend them, the subjects of the papers to be presented should be announced to the members before the meeting. To enable us to prepare and send out a programme, all those who contemplate presenting papers at the coming meeting are requested to send the *subject* at their earliest convenience.

We expect to secure reduced rates on railroads, and the Secretary will take pleasure in sending the necessary order to every member.

The order for commutation must be procured before leaving home to attend the meeting. S. L. JEPSON, *Secretary*.

Wheeling, W. Va., March 28, 1884

AT THE last meeting of the Alumni Association of the Medical College of Ohio, the orator of the day, Dr. David DeBeck, read a paper on "Legislation as Regards Color Blindness." (Published in this issue of the LANCET AND CLINIC). This was followed by considerable discussion, and a committee of three was appointed to bring the matter properly before the Legislature. This committee was constituted as follows: Prof. W. W. Seely, M.D., Cincinnati, O.; C. M. Finch, M.D., Portsmouth, O.; and David DeBeck, M.D., Cincinnati, O.

This committee selected as best adapted for the purpose the present laws of Massachusetts on this subject, as follows:

An Act regulating the employment by railroads of persons affected with color blindness or other defective sight.

Be it enacted, etc.

SECTION 1. No railroad company shall employ, or keep in its employment, any person in a position which requires him to distinguish form or color signals, unless such person within two years next preceding has been examined for color blindness, or other defective sight, by some competent person employed and paid by the railroad company, and has received a certificate that he is not disqualified for such position by color blindness or other defective sight. Every railroad company shall require such employe to be re-examined at least once within every two years, at the expense of the railroad company.

SECTION 2. A railroad company shall be liable to a fine of one hundred dollars for each violation of the preceding section.

SECTION 3. This act shall take effect on and after the date of passage.

A copy of this Act was placed in the hands of Hon. J. E. Bruce, Representative to the General Assembly from Hamilton County, and the necessary measures to ensure the passage of this or a similar law entrusted to him.

Selections.

MEDICINE.

THE THERAPEUTIC APPLICATION OF NITROUS OXIDE GAS.—From a series of experiments made in Prof. Botkin's laboratory in St. Petersburg, Dr. S. Klikowitsch (*Virchow's Archiv*, xliv., 2) draws the following conclusions:

1. Nitrous oxide gas is incapable of supporting respiration in animals and plants, and, like other indifferent gases, leads to death from asphyxia. The asphyxia produced by this gas, however, presents points of contrast to the asphyxia produced by other means.
2. Nitrous oxide gas produces no chemical or morphological changes in the blood of animals, but is dissolved in it and again eliminated, according to physical laws, without apparently being broken up into nitrogen and oxygen.
3. Anæsthesia with laughing gas is so closely associated with insufficient oxidation of the blood that it cannot be regarded as absolutely without danger, especially in diseases of the heart, lungs, or blood-vessels.
4. The association of laughing-gas with twenty per cent. of oxygen completely removes the possibility of asphyxia and produces a number of results capable of therapeutic application.
5. Under the influence of the mixture of laughing-gas and twenty per cent. oxygen, in the majority of healthy subjects, the heart's pulsations are increased, the pulse-wave diminished, and the respiratory

movements decreased in number and increased in depth; these effects pass off in from three to five minutes.

6. In six cases of weak heart-action, the above gaseous mixture produced no unfavorable results; on the other hand, the pulse was decreased in frequency and increased in strength. These effects lasted from one to two hours.

7. In cases of disturbed respiratory innervation the mixture of laughing-gas and oxygen regulated the respiratory rhythm and rapidly removed the subjective and objective signs of deficient oxidation of the blood.

8. This gaseous mixture acts as a transient anæsthetic, and in angina pectoris causes a rapid removal of suffering.

9. It is to be preferred to chloroform as an anæsthetic in labor.

10. Vomiting and cough of reflex origin are arrested by a few inhalations of this mixture of gases.—*Phil. Med. Times.*

NEUROSES OF THE VISCERA.—Dr. T. CLIFFORD ALLBUTT, Lecturer on Practice of Physic at the Leeds School of Medicine; Consulting Phpsician to the Leeds Hospital for Women and Children, commences the second Gulstonian Lecture as follows:—

GENTLEMEN,—We all know the story of the resentful lion who had often been painted by the man, and who longed for the time to come when the man in his turn should be painted by the lion. Is it because all medical books have been written by men that gastralia, one of the sharpest arrows in the armoury of pain, is in many of them dismissed with a few words as a malady of "hysterical women;" of women, that is, whose sufferings are due in part to effeminate habits and constitution, and in part to a kind of fanaticism which prompts them to cherish or to imagine pain, or to make a bitter cry about small matters.

We all ought to know that gastralgia is common enough in man also, though certain writers appear to deny that this or any other visceral neurosis can exist where no uterus is; and I have endeavoured to formulate a distinction between what I may call the upper class of neurotics and their degenerate relations the hysterics; asserting therein that, in hysterics, pain is not a more but a less common inheritance, and that to neurotics it is chiefly given to suffer pains and the renewal of pain, and to bear all with singular fortitude and spirit.

Of all the neuroses of the stomach gastralgia is the chief; but around it gather, in more or less close association, flatulence, vomiting, hyperæsthesia, and miseries such as distension, sinkings, cravings or loathings, of food, and these may exist in various associations, or may exist singly.

As in angina pectoris and the pseudo-angina, so in gastralgia, the spinal nerves may be included in the paroxysms, or may take even a chief part in them, the visceral and overlying spinal nerves being grouped in function and in suffering together. In order to study this class of cases more carefully, I have gone over the case-books of my chamber-consultations for ten years past, namely, from the year 1874 to the year, 1883, inclusive. From them I have extracted 139 cases of gastric and abdominal neuralgia. These cases remain after eliminating all that are doubtful or comparatively trivial in degree; all cases attended with important uterine disorder, or complicated with substantial defect in any organ whatsoever, or with disease; all hysterical cases, and all cases of fretful or whimsical persons prone to expand or to exaggerate their symptoms.

The selected cases, then, are the cases of persons of whom I have some tolerable notes, who were straightforward and truthful, and who are, or were, the subjects of neurotic or neuralgic affections lying under the diaphragm and above the pelvis. Now, the great majority of these cases are gastralgias, the region of the stomach being by very far the commonest seat of abdominal neuralgia. Of the gastralgics the majority are women, in the ratio of two to one. In men and women, gastralgia is by no means confined to middle life, as Leared supposed, but is found at all ages, from fourteen to sixty, being most common between twenty and forty-five. Like migraine it tends to die out in middle life; and, like migraine again, it is attended less and less with vomiting as age increases. Gastralgia comes on earlier in woman than in man, apparently by some ten years. A gastralgic man is rare before the twenties; girls often begin in their teens.

The earlier maturity of the girl sufficiently explains this difference, which is also remarkable, though I think in less degree, in migraine. Migraine may, however, begin at very early ages in either sex. Of association migraine and neuralgia of the head and face together, the number of cases in which these are found with gastralgia is very great, seeming to be fully eighty per cent. Fortunately, these affections do not often coincide in time, but rather alternate variably one with the other. A large number of gastralgics, then, include migraine or neuralgia of the head and face in their life-histories. Another disorder commonly associated with gastralgia is asthma, an observation which scarcely need either explanation or much asseveration. Neurotic vomiting may accompany, or rather alternate with, asthma, as the gastralgia may; and so again may voluminous flatulence, borborygmi, and other such neuroses. Like asthma, gastralgia is not unfrequently nocturnal in its recurrence, and is likewise often aroused by improper food, or by the contact of any food whatever. Hence the persistent confusion of gastralgia with dyspepsia. Asthma and gastric neuroses, moreover, if not concurrent in the individual, are often concurrent in families, one member suffering from the latter, and his brother, sister, or other relative from the former. With both these vagus neuroses run the cardiac neuroses, including true angina. I am now attending a gentleman with Mr. Jessop, who suffered terribly from paroxysmal gastralgia in past years, and in whom we have now to deal with the true angina. In gastralgics occur violent attacks of palpitation, or, more characteristically, attacks of slow or intermittent pulse.—*British Med. Journal.*

Humane Blistering.—Samuel Stretton recommends in lieu of large blisters, which often cause undue suffering, the application of a considerable number of small annular blisters made by cutting out circles of "blistering tissue" with an ordinary gun-punch and removing the center with a smaller punch. The valuable influence of the blister is thus obtained with very much less suffering than when a large blister is applied.—*British Med. Journal.*

Acute Tuberculosis in a Child of Six Months, without Tubercular Meningitis.—Dr. Allen (*Australian Medical Journal*) reports the autopsy of a case which was brought dead to the hospital. The body weighed under nine pounds. A scrofulous sore existed over the scalp. The peri and endocardium were free from tubercle. The bronchial glands of the right side were much enlarged and cheesy. A cheesy mass was found in the upper part of the right lung. The lung around this was studded with miliary tubercles. These were also found in the left lung, the pleura, the liver, kidney, spleen and omentum. No tubercles were found in the meninges of the brain and no lymph. The left optic thalamus contained a cheesy nodule a fourth of an inch in diameter.

SURGERY.

On the Treatment of Furuncle, Carbuncle, and Malignant Pustule.—Furuncle, carbuncle, and malignant pustule are affections which really differ from each other only in degree. All three depend upon the introduction of infectious matter into the circulation from without; this matter, in the two first-named conditions, belonging to the class of what are now known as septic agents in general, while malignant pustule is the product of the anthrax poison. The latter also is essentially a septic substance—although specific in its nature, like the bacilli—but is much the more powerful.

This statement embodies the rationale of the author's treatment in the diseases named. It is, of course, diametrically opposed to the antiquated, but not yet obsolete notion, founded upon the humoral pathology, that furuncle and even carbuncle are to be regarded as *critical* complaints, by no means to be suppressed, but, on the contrary, encouraged by poulticing and similar measures, as furnishing outlets through the skin for the spontaneous and generally harmless escape of accumulated impurities which might otherwise give rise to dangerous diseases.

Furuncle is a *necrosis* of one or more of the *sebaceous glands.* Through a lesion of the cuticle some poison is admitted, which comes in contact with the capillaries of the glands, paralyzes their nerves, produces engorgement and alteration of their blood supply, cuts off their nutrition, and at last causes the death (necrosis) of the tissues which they normally sustain. The surrounding connective tissue, when once the virus has gained access to it, becomes quickly infiltrated, and, being thus subjected to increased pressure, the necrosis continues to extend in every direction, especially after *spontaneous infection* has set in from the suppurative nucleus or core.

The parts of the body most liable to furuncle or to carbuncle are those in which the sebaceous glands are most abundant, and the skin is most exposed to injury, of however trifling a nature. Thus, an unclean finger or nail may convey poison into the circulation from the face. The boils and carbuncles which are so common upon the *nape* and *back* are generated by a virus carried from the neck (galled, perhaps, by a stiffly-starched collar), or from the scalp, by falling hairs, and which has found a place of entrance upon the first-named regions. The fingers bring infection to the axillæ, the anus and perineum are contaminated by the fæces, and the finger itself is liable to boils through direct contact, in various trades and occupations, in cooking, dissecting, etc. In the *auditory meatus*, owing to the obtuse angle which it forms near the orifice, its anterior wall is most exposed to contact with foreign substances; therefore, it is not surprising that furuncles are most frequently met with upon this wall.

The reactive inflammation in the vicinity of the septic formation may be confined to its first locality, if the poison is only slightly infectious, or may extend to the larger lymphatics, or, through the veins, to the brain, heart, vena portæ, etc., causing coma, collapse, marasmus, and speedy death.

It is easily inferred from this pathological view that *antiseptic and abortive measures constitute the only rational mode of treating these disorders*.

During the first few hours or days of a boil's existence, it presents merely a small pimple, which, being very soon scratched open, is covered with a scab of corresponding dimensions. This scab is removed with a small knife, disclosing a suppurating point—*at once the product and the source of infection—the necrotic focus of the disease.* A small wad of lint, held by tweezers, and moistoned with spirits of ammonia, is pressed rather firmly upon this point. The application is repeated six or eight times, a fresh wad being used each time. If the purulent spot has attained considerable size, the surrounding skin must be stellately scarified before the application of the ammonia, so that the latter may gain entrance on every side. At the same time the following is administered as a disinfectant of the blood: chinin. muriat., 1.0; aq. dest., 200.0. After the local disinfection borax ointment (1:30. ungt. glycerin.) is spread over the affected places, two or three times daily, and in a few days they will be completely healed, without much inflammation, unless symptoms of a malignant nature should declare themselves.

In *carbuncle* the inflamed tissues must be relaxed by a deep crucial incision—especially if the tumor has attained considerable size and is very painful—shreds of necrosed cellular tissue removed by the curette, the purulent cavities washed out with a five-per-cent. carbolic solution, drainage-tubes inserted, and the sore covered with a large antiseptic bandage, over which an ice-bag may be placed for a few days, should the carbuncle show a tendency to enlarge. This dressing must, of course, be renewed every day. Internally, quinine may be given for about a week.

In *malignant pustule*, a crucial incision is made into the small, dark-red, hard, leathery, and cicatricially thickened eschar, and the surrounding tissues are stellately scarified, especially if they are elevated like a blister. When possible, the crust is completely removed, and the edges of the small resulting sore are also scarified. Spirits of ammonia are then repeatedly applied. as directed above, and the parts smeared with borax ointment and covered with lint or a gauze bandage. In a few days, the pustule will be completely healed leaving a small cicatrix. Here, of course, as in carbuncle, quinine must be exhibited internally, from the commencement, and kept up for a week, but in larger doses; this generally breaks the fever in a few days. In this way more than one hundred cases of malignant pustule have been treated in the course of a year *with the most satisfactory results*, only two deaths having occurred—one in consequence of the pustule being seated upon a large goitre, thus causing suffocation: the other attributable to delay in commencing the treatment.

In cases of furuncles or carbuncle on the neck and back, the urine should be tested for sugar, since diabetic patients are frequently troubled with them in these situations.

The so-called *epidemic furuncle* is generally regarded as the product cf some mysterious miasm. It is far more probably caused by *a deposit of septic molecules from the atmosphere, during long continuance of rainy weather, or while the wind is blowing steadily from one quarter.* In cases of this kind the above described treatment is equally effectual.

Very hard boils on the lips, and those exceedingly painful ones which occur in the *external auditory meatus*, deserve particular attention, since their virus is frequently conveyed, by means of softened thrombi or emboli, into the orbital cavities, and thence into the brain, or else passes *directly* into that organ, from the ear, thus causing speedy death. Various kinds of phlogogenic and septic molecules held in suspension by the atmosphere are deposited at each normal inspiration upon the nasal mucous membrane, by whose secretion they are arrested in their passage to the bronchi and lungs. From this situation they are liable to be carried into the circulation through very slight lesions inflicted by the fingers, or by razors, etc., upon the surrounding epidermis, and especially when the finger itself has been previously contaminated.

The application of ammonia is easily made to the upper and under lips. Boils in the internal auditory canal, however, can be effectually treated only by means of the recently discovered non-caustic disinfectants, which are used without injury to the membrana tympani. Such are thymolized "boracic acid," acetate of alumina, etc., which are applied to the meatus in the form of local baths, after vertical incision of the tumor, and are followed by powdering with boracic acid, iodoform, and the like.

Errors of diagnosis are of small account, since in all the three forms of disease we are considering the same curative measures are applicable.

Under the title *panaritium* are included diffuse phlegmon, progressive tenosynovitis, extensive peripheral necrosis, arthromeningitis, lymphangioitis, metastatic abscess, gangrene, etc., *all of which originate exclusively in septic poisoning.* Panaritia are strikingly distinguished by the depth to which they penetrate the tissues, the sudoriparous glands primarily in this complaint extending their roots much further down than those of the sebaceous glands; they sometimes compel amputation, or may even result fatally. It is unfortunate that panaritia, at their commencement, are usually mismanaged by the employment of all sorts of poultices and plasters, so that the physician very seldom sees them until they have passed the stage in which abortive local treatment is effectual. Even when this is not the case, the patient almost always refuses to submit to a free incision of the abscesses before pus appears to have formed, and while the finger is not even stiff. Treatment, therefore, has to be directed to the established sequelæ of the disease, and must consist of suspension of the limb, etc., in accordance with general surgical principles.—*Journal of Cutaneous and Venereal Diseases.*

ANTISEPTIC SURGERY IN ITS APPLICATION TO FIELD SERVICE.—Read at a meeting of the Woolwich Military Medical Society, February 15, 1884, by C. H. GOODWIN, Surgeon-Major, A.M., M.D., and published in *The British Medical Jonrnal.*

In the paper on "Antiseptic Surgery in its Application to Field Service," which I had the honor to read before the Society last month, I endeavored to state, that inflammation is not necessary for healing wounds, inflammation of wounded tissue is due to a putrefactive fermentation of the discharges of the wound, putrefactive fermentation of the discharge of a wound is due to the development in it of micro-organisms, chiefly of the bacteria class.

Micro-organisms are brought into con-contact with wound discharge either by dust, water or air, but if they are excluded, fermentation, and subsequent inflammation, with its constitutional effects, will not ensue. Dust and water can be excluded, but air can not be. To protect the wound from this (air), we must surround it with a germicide vapor, which will render the organism in it inert. Such vapor can be produced by using as dressings the materials already described, and if the dressings are applied in the manner directed, no air can gain access to the wound, except by passing through a vapor of the antiseptic used. The best and most efficacious of these dressings being undoubtedly that known and fully described at length at our last meeting, as the Listerian method.

If our treatment be successful in maintaining the wound aseptic, the patient is saved, not only from hectic, and the drain of a prolonged suppurative process, but also from all forms of infectious disease, such as pyæmia, septicæmia, hospital gangrene, and erysipelas, and possibly, also, from the risk of secondary hemorrhage.

I need not now do more than allude to the effects of infective disease consequent upon wounds in military hospitals in former campaigns. The history of all wars is full of it, and as late as the Franco-German war it quite paralyzed the action of the surgeons. They, in the language of one, were afraid to operate, and so it has ever been where the sick and wounded have accumulated, and sufficient time has elapsed to give rise to the necessary conditions.

It is the knowledge of the mortality from this cause that drives army surgeons to spare no time or trouble in finding some method by which it may be wholly or in part averted. I also said that secondary hemorrhage might be prevented by maintaining wounds aseptic. To this I will briefly allude. I said last month that a belief was gaining ground that secondary hemorrhage was not due to a failure of the ligature, or to an insufficiency of clot in the ends of the artery, but to degenerative changes in the coats of the artery, due to pus making its way up the track of the vessels. Mr. Symonds and Dr. Goodhart both hold these views. Should this pathology be correct, it would follow that if we prevent suppuration we prevent the cause of secondary hemorrhage, and again, in a surgical point of view, if called to a case of secondary hemorrhage in a suppurating wound, of what avail will it be to try and pick up the end of the artery when probably the coats have given way elsewhere? We must realize the diseased condition of the walls of the vessel, and either deligate the artery high up or the limb may have to be sacrificed.

How can we best carry out a line of treatment in our field hospitals that brings about such beneficial results?

First, I would answer, acquire a thorough grasp of this subject, which is embraced in the term "Listerism," in the daily practice of the treatment of wounds, and become practically acquainted with the different modes of carrying out aseptic and antiseptic treatment. Should the practical knowledge of these methods be first attempted on service, we can hardly hope for success, as at that time when we can only carry out that which we are already familar with, the daily pressure is too great for more.

What may be attained is seen by studying the writings of Professor Carl Ryher, who went in charge of an ambulance to the Caucasus in the Russo-Turkish war, and whose figures are to be found quoted in Surgeon General Longmore's works, in Mr. Cheyne's valuable book, and in the Military Medicine section of the Transactions of the International Medical Congress of 1881.

He says he had 81 cases of gunshot wounds of the knee; 18 were treated antiseptically throughout, of whom 3 died and 15 recovered with mobile joints. In 40 cases which had been manipulated and operated upon in opposition to antiseptic principles, before coming under his care, 34 died, 6 recovered, 5 of whom lost their limbs. The remaining 23 cases, were treated altogether without antiseptic precautions, and of these only one patient recovered.

Thus, in the cases in which Listerism was practiced from the outset, the wound openings being merely occluded by an antiseptic compress until arrival of the patient at the field hospital, the mortality was reduced to 16 per cent. In the cases treated partially only on antiseptic principles, the mortality was 85 per cent. In the 23 cases in which antiseptic treatment was not employed at all, the mortality was 95 per cent.

Dr. Bergman, who crossed the Danube with the Russian army, had 15 cases of compound fracture of the knee joint, of which 14 recovered, but 2 lost their limbs; but he found many difficulties, for instance, the Danube water collected for dissolving the carbolic acid was thick with sand and mud, and there was no time for boiling and filtering it. The spray-diffusers became choked and useless. In his most successful cases of gunshot fractures into the knee joint, the first dressing on the battle-field consisted of wrapping the limb, after it had been washed with a solution of carbolic acid, in 10 per cent. salicylated wool thickly rolled round the wounded joint; a bandage confined this dressing close to the limb, which was finally imbolized in plaster of Paris. Many wounds thus closed by immediate occlusion were found to be healed on removal of the first dressing. He says, however, that one highly important condition is attached to this, that no examination of the wound, by probe or finger be made on the battlefield or dressing station.

The testimony of surgeons who have practiced antiseptic surgery in war on this point is uniform — namely, if the soldier is to be treated with any reasonable chance of success in the field hospitals his wounds must not be manipulated by surgeons in the front; under this term I include the regimental and bearer company assistance.

Reyher gave instructions that wounds were never to be examined at the front, either with fingers or instruments, nor was any attempt to be made to extract the bullet, the only exceptions being cases of injury to blood-vessels, and where the walls of a cavity were wounded and there was a chance of the ball falling into it. For surgeons at the front, he says, there is only one line of treatment — *to occlude the wound provisionally, to lay the wounded part in a suitable position on the litter, and render it provisionally immovable.*

The dictum of Professor Nussbaum is, "that the fate of the wounded man lies in the hands of the surgeon who first attends him."

What better rules can be given for the surgeons at the front than those of Reyher? The least reflection shows at once that the hands and instruments of those in such a position must be dirty, and quite unfit to be brought into contact with any wound except where it is imperatively demanded, as in a case of hemorrhage, compound fracture, mutilated limb, etc. A wound not requiring active surgical interference should be covered with a dressing of some antiseptic material, which should be fastened on with only the requisite degree of tightness to insure its keeping in position.

Several suggestions for the nature of the first dressings have been made. I am inclined to think it does not very much matter which of the dressings is used, so long as it is light, dry, antiseptic, and therefore absorbent, as salicylated lint or cotton, boric lint or cotton, or absorbent cotton. I should prefer, however, a prepared cotton wool, because even if all the antiseptic had evaporated, it would still answer, acting as a mechanical filter. The field-dressing of Esmarch is excellent, but I suggest a fold of cotton wool in place of his tampons, because if the wound be not made by a bullet but by a sabre or lance, the cotton dressing could be used, while the tampon would be useless.

The dressing ought to be carried by the soldier, and it should be sewn under the flap of the coat. Soldiers have no room in their pockets for half they want to carry; and they are not likely to keep a packet of dressings in their only pocket, to the exclusion of tobacco and other things they value highly.

The wound having been occluded, the man must be sent to the field hospital, where a proper and thorough examination will take place.

Esmarch says that the new bullets pass in quickly through the clothes, and may not carry in any causes of putrefaction. Dr. Blair Brown gives, in his *Surgical Experiences in Zululand*, several instances of rifle bullet tracks healing by first intention.

In cases, therefore, where the edges of the wound come in contact, and no bone is injured, or clothing carried in, it would possibly suffice to cleanse well the surrounding skin, and then, without more examination, to occlude the wound by a full Listerian dressing, or with folds of salicylated wool. On the other hand, if the wound be gaping, foreign bodies carried in, or bone injured, after the necessary operation, the nearer the dressing approaches the thorough Listerian gauze one, the greater the chance of the wound remaining aseptic.

As the treatment of these wounds requires the thorough washing out of the wound by an antiseptic lotion, I should like to see a syringe and flexible tube supplied to every field hospital, as on service it would be impossible to spare catheters for this purpose, the supply of which is necessarily limited, and the demand for their legitimate use often imperative.

Many objections have been made against attempting the use of Listerian dressings, because of the difficulty of using a spray. If one can be used in field hospitals, so much the better, but good results can be obtained without it.

Dr. P. Brun, of Tübingen, has abandoned the use of the spray since 1879, and has obtained results equally good as those with the spray; he uses irrigation in long operations. Billroth, of Vienna, has for some time now, carried on the antiseptic treatment of wounds without the spray, and with excellent results. Volkmann, of Halle, has also discontinued it, and several of the distinguished ovariotomists of this country do not use it.

Dr. W. F. Stephenson said that he had been led to address the Society by a conversation he had had the honor of holding with the Director-General with reference to the question of dressing in the first line; having learned from him what he thought the surgeons in the first line wanted, he had endeavored, by means of a few experiments, to satisfy his requirements. To procure aseptic surgery in the first line was, of course, impossible. Aseptic precautions could not be taken beforehand; nothing further than antiseptic surgery would render this first aid in the fighting line. The materials at hand for this purpose were various. As fixed non-volatile antiseptics, salicylic acid, for many purposes, and, to a small extent, boracic acid might be taken as the types: eucalyptus was non-irritant, but was highly volatile, and, under certain climatic influences, would lose its power in a very short time; this was a matter of importance, seeing that after being dealt with in the first line of aid, the wounded did not approach the field hospital, in some cases, until after an interval of as much as forty-eight hours. Therefore, a highly volatile antiseptic for these purposes might fail under certain climatic conditions. Eucalyptus, however, was useful, especially on account of its non-irritant properties. He had had prepared an eucalyptus cream, which could be carried in an ordinary collapsing tube, such as was used for scent fountains. These portable creams would be useful for annointing dirty fingers and instruments before use, and, furthermore, for pouring a quantity of this antiseptic into the wound. Carbolic acid was volatile, and besides that, had other very valuable properties; it was antiseptic to a very high degree, and to a considerable extent astringent. Then came the question how these materials could be utilized for a perfect dressing tor the first line of assistance. His first idea was with reference to absorbent pads, and the conclusion to which he came was that if an absorbent material were saturated very highly with a more volatile antiseptic, the material absorbed from the wound into this tissue would be controlled by the fixed antiseptic, so that under no climatic influence would it decompose, and so convey putridity to the wound itself. The other problem was this, that the soldier slept in his clothes, he was often dirty by nature, his skin was dirty, and everything around his wound was dirty when he received it. In antiseptic surgery it was necessary to bathe the wound and the surrounding parts with a septic destructive material. Therefore, if on the surface of this absorbent material, saturated with a fixed antiseptic, a thin film were infused of one of these volatile antiseptics, eucalyptus or carbolic acid, soluble at the blood temperature, by the mere application of this dressing, a bath of antiseptic vapor would surround and cleanse the wound and the skin around it. He showed samples of the manner in which he had attempted to carry this idea out; a piece of spongio-piline in which there were absorbed and equally disposed all over the tissue 120 grains of salicylic acid. Esmarch's tampon, though good in itself, was applicable only to bullet wounds, it was not sufficiently big for any other purposes; but surgeons in the front had as many wounds of other classes to deal with as bullet wounds — gashes from bayonets, shells, or saber cuts — which a simple tampon would not in any way deal with. A dressing for general use must be, so to say, a compound dressing, that is to say; a dressing divisible into units, which could be divided so as to suit a small bullet wound, or to supply the necessities of a sabre cut. The dressing he showed was divided into four-inch squares or thereabouts, which would be a good size for covering the surface of a bullet wound, and rendering antiseptic its surroundings. At first he had great difficulty in getting the salicylic acid equally distributed in the tissue. With a sewing machine he had caused to be made another kind of dressing, a quilted pad of salicylated wool, containing 10 per cent. of salicylic acid, and with the carbolic coating, for the purpose of bathing the wounded surface. This also was divisible into minute dressings for bullet wounds, or could be used in larger pieces for sabre cuts or shell wounds. The salicylic wool absorbed any discharge from the wound, and rendered it perfectly aseptic. This dressing had the advantages of being very much cheaper than the spongio-piline. Having succeeded at last in getting the salicylic acid very well absorbed into the spongio-piline, he had made what he would venture to call under these circumstances an unit of dressing, because it was suggested that one could not trust the soldier to carry more, perhaps, than was sufficient for his own bullet wound, he could not carry a sufficient supply of dressings to satisfy his wants if he had a limb shot away, and it was suggested that each surgeon's orderly should be able to carry a sufficient supply for each surgeon's use. Four of these units would supply fifty dressings, which would be considered sufficient for each surgeon's use, at starting, in the field.

Fifty dressings did not make a very large parcel, or one difficult for an orderly to carry. Each minute square contained ten grains of salicylic acid, and over the surface was plastered this aseptic wax, which would not only cleanse all the surroundings of the wound, and render them perfectly aseptic, but the vapor from the wax, entering the wound, would go far to destroy any germ that might have entered it at the time of the entry of the bullet. The packet also contains antiseptic bandages, which, being light and easily adjusted, would be better for binding on dressings of this sort. If these things were available for use, the prescriptions were at the service of the country. He wished to make no speciality of it in any way. Whatever he had done was for the benefit of the wounded soldier. The chemist who prepared some of these things stated that if a hurried demand arose for these dressings, they could prepare in a couple of days a thousand or two.

Sir Joseph Lister spoke as follows: I accept, with much pleasare, the invitation which I received from you, sir, and from the rest of the members of this mess to attend on the present occasion, because I feel that the application of antiseptic principles to military surgery is in a more hopeful position now than at any former period, partly because a conviction of the truth and importance of antiseptic principles is more diffused than ever it was before, and partly because the antiseptic means at our disposal have increased, and some of these new means are more applicable to the purposes of military surgeons than those which we at first employed were. Both of these matters are of essential moment. It is essential that all the surgeons concerned in the treatment of wounded men should be inbued with the idea of the importance of antiseptic principles. It is of no use for the surgeon who first treats a wounded man to act antiseptically, if the one who follows him do not do so; nor, conversely, is it of any use for the surgeon in the field-hospital to be ever so good an antiseptic surgeon, if his predecessor have defiled the wound. Then, again, as to the other point, in civil practice we may go to any amount of expense almost in our materials; we may have our materials as bulkly as we please; but in military practice it is, I conceive, essential that the materials should be cheap, and that they should be, so far as the first treatment of the wounded man is concerned, capable of being employed in small bulk. As regards the former of these matters, and indeed, both, Dr. Reyher, to whose results Surgeon-Major Godwin has referred, was very well aware of their importance. Before I say anything further about Dr. Reyher, I am tempted to relate a small anecdote respecting him. He came to see me in Edinburgh. He aftewards told me he came from London saying to his friends there, "I go to Edinburgh, expecting to come back thinking as little of the value of antiseptic surgery as I think of it when I go." He went round my wards one single time; and as we walked through the passage afterwards, he said "I am astonished." He stayed some weeks after this, and not only became thoroughly impressed with the truth of the principle, of which what he first saw convinced him, but he became also thoroughly familiar with such details as we then had. Not very long afterwards he received an appointment in the Russo-Turkish war, and he was a good illustration of the saying, "Where there's a will there's a way," for he had transported, wherever he went, a machine for the preparation of the carbolic gauze, which, no doubt, if a man chose, might be still taken with an army in the same way as a cask of beef. It was somewhat cumbrous, but he took it, and had the gauze prepared daily for his use. He also took spray-producers, and performed all his operations under the spray. The results have been referred to by Surgeon-Major Godwin, and certainly they were most admirable. He was convinced of the importance of not permitting one man to defile a wound to be treated by a second. He wrote to me telling me of some of these results. He said he divided his cases into the *befingerte* and the *unbefingerte*, cases which had been fingered by somebody before him, and cases which nobody before him had fingered. He said he happened to have had fourteen cases of gunshot-wound of the knee-joint; seven were fingered cases, and seven unfingered. The seven fingered cases had all died except one; he was still living, but he was in high fever, and Dr. Reyher was afraid he might succumb. Of the unfingered cases, all were alive, and only one had had fever, but Dr. Reyher said he had also had a considerable portion of his face shot away; this could not be treated antiseptically, and the fever was so explained, and he said, "Are these not remarkable results?" So much for Reyher and his principle that, as Surgeon-Major Godwin has said, what should be done in the first instance should be simply the covering up of the wound with some antiseptic material, and as little fingering as possible. I feel sure that, if I were to say all I should like to say, I should occupy your time too long. I feel also that it is, to some extent, an impertinence in me to speak before military men at all, seeing that my practice has been entirely civil; but I should like to say a word or two with regard to simplifications of the treatment both in the field-hospital and at the front. First, as regards the field-hospital. Allusion has been made to the spray. I have long since held and taught that, of all the parts of the antiseptic system, the spray is the least important. It would not at all break my heart if I were told that I should never be allowed to use the spray again in my life; I am satisfied I could, by other means, get essentially the same results. Many German surgeons do not use the spray; therefore, the fact that the spray is an incumbrance is not, to my mind, an argument against the use of the antiseptic treatment by military surgeons. I do not desire that the spray should be used in military practice. I believe essentially the same results can be got without it; and, if the military surgeon is to conceive that he cannot carry out antiseptic treatment except with the spray, I believe he will be very greatly embarrassed. The spray-apparatus is likely to get out of order; he will be constantly called upon to operate in circumstances where the spray is interfered with, by draughts of air, and so on, in tents; and it is much more important for him to confine his attention to other matters than the spray. If, when the operation has been done, he wash the wound well with some reliable antiseptic solution, the chances are immeasurably great that he will get as good results as if he used the spray. That, then, is one point of simplification. Then, as to an antiseptic lotion, you are aware, doubtless, that corrosive sublimate has been shown to have very wonderful antiseptic properties. Corrosive sublimate, at the same time, is an exceedingly cheap substance; it costs wholesale only about two shillings a pound, and an exceedingly small quantity is sufficient as an antiseptic lotion—one part to a thousand parts of water. This, it seems to me, is a very important matter. It is very much cheaper than such carbolic acid as is fitted for satisfactory use; I do not refer to the crude impure kinds, which are not satisfactory. Corrosive sublimate has been used in connection with what has been termed wood-wool, a curious term, no doubt—that is, a soft material, made by tearing up pine-wood into a sort of woolly substance. The corrosive sublimate in this wood-wool, the wood-wool itself being excessively cheap, is used in the proportion of a half per cent. of the weight of the wool-wool, with an equal part of glycerine. The objection to this wood-wool is its bulk; for, if it is to be used satisfactorily, the small proportion of the corrosive sublimate renders it necessary that it must be used in a large mass, otherwise the corrosive sublimate would be washed out prematurely by the discharges. I am at present engaged in some experiments with a view of seeing whether corrosive sublimate could not be used in a more manageable form; and I may mention here what I have never mentioned publicly before, which, as far as I know, is a new fact in chemistry—that corrosive sublimate turns out to be wonderfully soluble in glycerine. It is soluble in one and a half times its weight of glycerine in the cold. It takes sixteen parts of cold water to dissolve corrosive sublimate; it takes several parts of wine; but glycerine dissolves it with remarkable avidity; and I believe that in fact here will lie the key to the application of corrosive sublimate in a more compact form, and therefore be more convenient for military service than the wood-wool. It is, perhaps, foolish of me to mention this, except that I wish to refer to that point of solubility in glycerine in another aspect directly; but meanwhile, if the wood-wool have been proved to be efficacious with the corrosive sublimate, there is this I think, that may be borne in mind by military surgeons; that if they, have rags in abundance (rags are really the same thing as wood-wool—the same chemical substance, highly absorbent as the wood-wool. If you have a mass of old sheeting or any sort of old rags at your disposal, if you dissolve corrosive sublimate with an equal part of glycerine in two hundred parts of water, steep the rags in this, and then hang them up to dry, you will have a dressing which can be certainly very easily prepared, and which, as the experience with wood-wool shows, I feel confident must prove efficacious if used in sufficient mass. Then as to the dealing with the wounded in the first instance, I have already expressed my perfect concurrence with Dr. Reyher, that the less that is done in the way of handling the wound the better, because the surgeon must be under great difficulties dealing with a number of men together, and without his hospital-appliances. Nevertheless, as has been stated, there are circumstances in which he must tie a bleeding vessel. Now, as to the antiseptic solution which he should use, I believe he will find the solubility of corrosive sublimate in glycerine very valuable. Corrosive sublimate, as I have said, is soluble in one and a half parts of glycerine; one drachm then of this solution will prepare a watery solution of corrosive sublimate (1 to 1,000) to the amount of one and a half pints, so that it will be in this way extremely portable. Corrosive sublimate is somewhat difficult to dissolve in water, except by aid of heat; but if you have it first dissolved in the glycerine, pour a little of this into water and diffuse it, you will have your antiseptic solution for washing sponges, the hands, and so forth, very easily prepared. I trust that the surgeon will always have an aseptic sponge; and this he can also do by means of corrosive sublimate more easily than with carbolic acid, simply from the fact that corrosive sublimate is not volatile. If sponges be purified with carbolic acid, and kept for a considerable time, the carbolic acid will leave them, and you cannot be sure that they are pure; but if you have them purified with the 1 to 1,000 sublimate solution, you will be sure they are pure, whether they have been kept for a week or a year. Then, as to the material with which the vessel should be tied, I cannot but think that it is an improvement that the catgut which we now use need not be kept in the bottles of oil in which our old carbolised catgut used to be kept. It is kept in the dry state as easily as silk, and all that has to be done before using it is to put in the antiseptic solution for a very few minutes. As to the first dressing that should be used, it is certainly a very difficult matter to have some material that shall be portable, of small bulk, and at the same time shall give a fair promise of being effectual antiseptically. I am inclined to think, in the present state of our knowledge, that iodoform is the agent which promises best for this purpose. It is by no means the most powerful, but still it is a very excellent antiseptic. It does not seem to be able to detroy the poison of erysiples as easy as carbolic acid, for example; and it certainly does not destroy various bacteria, as we have ascertained by experiment, nearly as well as carbolic acid, and some other of the more powerful antiseptics. Nevertheless, those who use iodoform, and I have used it a great deal myself, must confess it is really a very satisfactory agent as a dressing, used, for instance, in the form of iodoformwool. It has this very great advantage, that, while it has this really valuable efficacy as an antiseptic, it is exceedingly little soluble in water or in the discharges that come from the wound, so that a very small quantity of it lasts a long time, while at the same time it is almost absolutely free from irritating properties. This is a very wonderful combination of advantages; and I am disposed to believe that dusting the wound over with the iodoform-powder, and then covering it over with some absorbent substance is, in the present state of our knowledge, the best thing that can be done for the wounded man in this instance. It so happens, only this very day I was reading an account, by Dr. Ladislas Lesser of Leipsic, on this very subject, and he proposes that antiseptic powder should be carried by the soldier in an empty cartridge. This, he considers, would contain a sufficient amount for the treatment of wounds. He says, as to the particular antiseptic, he does not wish to dogmatise upon that. He recommends two parts of boracic acid powder and one part of iodoform-powder. I am inclined to think, myself, it would be more prudent to use the iodoform-powder pure; because if the antiseptic is to be carried in small bulk, it should be very effective in proportion to its bulk, and the boracic acid is by no means so powerful for equal bulks as iodoform is. He recommends, then that the soldier should have a cartridge full of this antiseptic powder; that he should have wrapped round this a bandage composed like these bandages which Mr. Stephenson has shown us this evening, corresponding a good deal to our antiseptic gauze, of open cotton texture, impregnated with spermaceti, which may be a very good thing, as it will not stick to the wound as cotton-wool would. He recommends that round the cartridge containing the antiseptic powder should be wound this bandage, about four yards long, and round this again a piece of absorbent cotton-wool, which will go into very small bulk, and round this a three-cornered cotton-handkerchief. Then he points out in what way these should be used. First of all the wound should be sprinkled with the powder, a few turns of the bandage put round, the absorbent cotton put over this, then the rest of the turns of bandage, and then the three-cornered handkerchief, used in the case of injuries to the arm, in the form of a sling. I am inclined to think that these suggestions of Dr. Lesser's are exceedingly good. I will only say that perhaps the little box containing the iodoform might be made with advantage in the form of a small dredging box, with small perforations in the lid covered with a cap. If there were a little space in the cartridge-box for this little dredger, then the other matters might, as Dr. Lesser says, instead of being packed round the box, he carried in the soldier's pocket, or, as was suggested, sewed in under his coat. If every soldier had material of this kind by him, it would certainly be a very important matter. A dressing of this kind would often answer the whole purpose. It might be left on in the case of smaller wounds till the healing was complete, or, at all events, for twenty-four or forty-eight hours, or even longer. It would be found, I believe, to keep the wound aseptic in the majority of cases.

Sir William Mac Cormac said that he had certainly heard a most interesting speech from Sir Joseph Lister, containing much of pregnant interest. Recently, he had had the opportunity of addressing a very large class in New York—a class numbering eight hundred students; and the Professor of Surgery had selected, as the subject of this address, gunshot wounds. He had then said that, of all known antiseptic material, iodoform seemed for the purpose of the first dressing of the wounded by far the best, and he was very glad to hear from Sir Joseph Lister that he entertained the same opinion. Iodoform, possessing the valuable properties of being very little poisonous, unless used in undue quantity, and of not having any irritating properties when applied to a wounded surface, and of being almost entirely insoluble in the discharges of a wound, and possessing remarkable volatile and antiseptic properties, seemed to furnish to military surgeons a combination which no other substance possessed; the exact manner in which it should be applied, whether as Sir Joseph Lister suggested, or in some other manner, was a subject which the ingenuity of the military surgeons concerned in these matters would very soon be able to settle. It could not be too strongly set forth that the future of every man wounded in war depended, to a very large extent indeed, upon how he was first dealt with. Much was proved, in those remarkable experiences which Professor Burkman and Dr. Reyher had in the Caucasus and on the Danube, to show how the antiseptic treatment of the gun-shot-wound in the first instance was attend by remarkably happy results. This manner of healing was the old-fashioned method of healing under a scab, and the materials that were applied externally were intended to help that method of healing. That was the manner in which those wonderful results were obtained in the cases of penetrating gunshot-wounds. Mr. Godwin mentioned that, of fifteen cases treated by Burkman, fourteen recovered with their life; and though, in two cases, the limbs were sacrificed at a subsequent amputation, they recovered. A gunshot-wound was a sort of subcutaneous injury; the external opening was very small, the internal damage often exceedingly great; but, the external wound being small, the nature of the injury was one which lent itself readily to this form of treatment. Of course, there were some cases in which it might be necessary to interfere by instrumental means in the first instance, but they were very few. Hæmorrhage had been mentioned. Hæmorrhage was an exceedingly rare occurrence in the first instance in gunshot-wounds. It sometimes occurred as the result of an injury to a large vessel, but the subject of that injury was usually very soon beyond the reach of all surgery. Secondary hæmorrhage used to be exceedingly frequent; but, with the employment of antiseptic methods, the occurrence of secondary bleeding as the result of gunshot-wounds, once very frequent, would become as rare as other forms of accident happening to wounds under this method of treatment—as rare as erysipelas and hospital-gangrene, and other of those preventable accidents which followed injuries. Sir Joseph Lister's statement, that the use of the spray was not one of the essential details of the antiseptic method, was one to which the experience of surgeons at home and abroad had been gradually pointing, and had a very important bearing on military surgery, because there could be no doubt that the use of an antiseptic spray was all but impossible on the field of battle. What military surgeons tried to do on the field, was to imitate as closely as possible the essential details and method of treatment which had been found most successful in time of peace; but certainly, in the first line of dressing, the only treatment that could be adopted was that of the simplest and shortest kind. The greatest possible good must be done to the greatest number, and this would not be done if a great length of time were devoted to any one particular case; and a great length of time would certainly be needed if any opportunity were given to carry out in full detail the practice of dressing which was and always would be associated with the name of Professor Lister. The first dressing must be something very much more simple. What was aimed at, in the first dealing with wounded men on the field, was to make them safe from harm, to protect them till they reached the more fully equipped and established places in the rear, where all the means were furnished for the full development of the best form of treatment known and adopted at the time. In hospitals at the rear, in field-hospitals, and in the base-hospitals, in every future war in which England might be engaged, ample means of dealing with all the most modern and best appliances would be provided; but, in the front or actual field of battle, any attempt to complicate matters must be attended by disaster. It must be attended by this consequence, that, as the number of surgeons present could never equal the wants and needs of those who were wounded; some must be neglected if extra time was devoted to others.

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Society Reports.

ACADEMY OF MEDICINE.

Meeting of March 24th, 1884.

W. H. WENNING, M.D., *President, in the Chair.* G. A. FACKLER, M.D., *Secretary.*

A Case of Chronic Parenchymatous Nephritis.

DR. WHITTAKER, introducing his report, said that prior to 1827 the character of affections of the kidney were not understood, nor could a differential diagnosis be made. In 1827 the researches of Richard Bright were published. According to his statements, the presence of albumen in the urine indicated disease of the kidney. Up to recent times authors made multiple distinctions between various forms of kidney trouble. Now all have been crystalized into a few definite classes. The following are the common divisions. Acute and chronic parenchymatous nephritis, interstitial nephritis and cirrhosis, and amyloid degeneration.

The case which the speaker wished to report was that of a lady who presented herself with the usual symptoms manifesting themselves in chronic parenchymatous nephritis. She complained of nausea, anorexia, headache, nervous debility, and other symptoms not referring directly to the kidney. In making inquiries as to her urine, speaker learned that the quantity passed was very much diminished. Examining the urine, sufficient evidence was found to determine the above diagnosis. While urine was in the speaker's hands for examination, the patient was suddenly seized with an attack of nausea and vomiting, and Dr. Wiggins was called in.

At Dr. Whittaker's request, Dr. Wiggins read the following report:

About four years ago, Mrs. B., age 29, was confined, at full term, for the first time. A few weeks previous to birth of child, general anasarca developed rapidly, and her attending physicians told her she had kidney trouble.

After delivery, patient convalesced quite rapidly, and in a few months was apparently as well as ever.

With the exception of an attack of diphtheria, about one year ago, patient continued to enjoy tolerably good health, until the beginning of her present illness, about six weeks ago. At that time patient suffered from headache and nausea, and states for forty-eight hours she passed no urine. At this time patient noticed that her urine was of a dark color, and contained a reddish deposit.

Loss of appetite and distressing nausea continued until three weeks ago, when I was summoned to see the patient, who had fallen into a sort of fainting fit.

On my arrival patient was lying on a sofa. Face pale, extremities cold, no radial pulse perceptible, heart beat 64 per minute, pupils dilated, respiration normal.

Patient complained of severe occipital headache, and pains in small of back, also intense nausea. Had not passed any urine for thirty-six hours, nor had she any inclination to do so. On palpating hypogastric region bladder appeared to be empty.

Morph. sulph. gr. ¼ was given hypodermically, and repeated five hours later.

The following morning, although the objective symptoms were about the same, the skin continuing harsh and dry, and the pupils still widely dilated, the patient expressed herself as feeling much better.

The treatment at first consisted of rest in bed, hot baths (temperature 106° F.), morning and night, and hydrochlorate of pilocarpine, gr. one-twelfth, subcutaneously. Owing to hyperæsthesia of skin, only two injections of the pilocarpine were given. but its use was continued per orem, in gradually increasing doses, until gr. ⅙ was given for two days. No good effects following its administration, its use was discontinued, and infusion of digitalis ℥ss. and acetate of potash, gr. xv., were given every three hours.

On morning of fourth day, 90 hours since last passage of urine, patient passed (℥iiss.) two and one-half ounces of yellow, turbid urine, acid reaction, sp. gr. 1035, and containing 3 per cent. of albumen.

On account of the nausea, and the consequent inability to retain the digitalis, it was discontinued, and in its stead potassium bitartrate, in form of lemonade, was given.

For the first two weeks patient remained in about the same condition, skin dry, pupils dilated, slight headache and nausea, no dropsy. Urine was passed about once every twenty-four hours, and then never exceeding ℥vi. at one time.

About one week ago patient's skin began to respond to the use of the hot baths, and their use was followed by a free diaphoresis. Patient was allowed to sit up part of the day.

Three days ago, abdominal dropsy appeared, and has continued to increase gradually since then. No œdema of hands, feet or face.

During the first twenty days patient passed altogether (℥lxvii.) 67 ounces of urine, an average of about 3½ ounces per day.

In every case the urine was of a yellowish color, turbid, and contained a thick white sediment, the reaction generally acid, though sometimes neutral; specific gravity varying from 1025 to 1036. Albumen always present in large amount.

Probably the most interesting features of this case are the absence of either coma or convulsions, the absence of dropsy for so long a time, and the very small amount of urine passed.

Dr. Whittaker continued his report as follows:

The form of the disease is recognized by interrogating, 1st, the symptoms on part of the nervous system; 2nd, the dropsy; 3rd, the urine.

In this case the nervous symptoms assumed prominence. They consisted of nausea, depression of spirits, nervous debility, and one or two attacks of partial syncope.

The dropsy was distinguished by its absence.

The small amount of urine passed is a distinguishing point of the disease. Albumen was present to the amount of five per cent.

The casts found were an interesting feature of the case. They were small, and not of the broad, waxy variety, which indicates a disease of long duration. The latter were entirely absent. The small amount of dropsy was remarkable. There was none whatever for two or three weeks. Dropsy depends upon the diminished secretion of urine. The smaller the amount, the more severe are the uræmic symptoms.

In the case reported the effusion was not in proportion to the decrease in the amount of urine passed.

If the patient be confined to bed, the presence of dropsy frequently escapes us, unless we make pressure on the back of the patient, and find that pitting results, while no swelling appears in the legs or lower extremities for one or two weeks subsequently.

Speaker was greatly dissatisfied with pilocarpine as a remedy in these affections. In this case no effect whatever was produced by its administration. Nor were better results obtained from the digitalis and acetate of potassium. The kidney would not respond.

A case is reported where no casts were found during a period of thirteen days, yet at death a mass of tube casts were discovered in the pelvis of the kidney.

In the urine white blood corpuscles were found. It was differentiated from acute parenchymatous nephritis by the absence of blood in urine, and of symptoms on the part of the bladder; from interstitial by the small amount of urine passed, in contradistinction to the large amount, of a greenish color, passed in the interstitial variety, and by the difference in the amount of albumen passed.

No good results were obtained until two weeks had elapsed, and not until the end of that period did profuse diaphoresis occur, although the patient was placed in a warm bath every morning, the duration of each bath being 15 minutes.

DISCUSSION.

Dr. Cleveland said that it seemed to him that this case of chronic parenchymatous nephritis was, in all probability, the result of the albuminura which occurred at time of pregnancy. The albuminuria, which is frequently associated with pregnancy, leaves the kidney in a damaged condition, which either remains for some time, or never disappears entirely. In connection with Dr. Whittaker's case he desired to report one of acute parenchymatous nephritis.

In the acute and chronic affection the pathological condition is similar. If the patient lives long enough, the acute results in a chronic condition. His case was a typical one. Saw the case for the first time on the 24th of February, but not from the inception of the disease. Upon inquiry he learned that the case began with the usual symptoms, with suppression of the secretions, especially of the skin. The face was œdematous. Anuria, which at first existed, was followed by the passage of a small amount of smoky urine. The latter continued for two or three weeks. When called, the patient was suffering with a very severe convulsion. He was a robust, muscular man, 25 years of age. Speaker was in doubt as to the difficulty. Inferring that it was a case of epilepsy, at the spur of the moment he bled the man freely. This had the effect of stopping the convulsion. Administered 10 grains of calomel. The following morning he became aware that his diagnosis was probably incorrect. There was an absence of urine, general œdema was present, and the patient presented that pale aspect peculiar to this form of nephritis. While the bleeding had stopped the convulsions temporarily, they returned, and recurred at intervals of a few hours, during a period of nine days, when patient died.

Treatment consisted of the administration of bromide of potassium for symptoms on part of the nervous system. The infus. digitalis seemed to benefit the patient, but the effect was only temporary. A post mortem could not be obtained, but he felt satisfied that had one been made, a large white kidney would have been found.

Speaker was adverse to the employment of pilocarpine as a remedy, judging from its physiological effect. While bringing about a profuse diaphoresis, it effected this at the expense of the patient's vitality. When hot water can be employed, it is the proper remedy. Besides this he would advise the administration of digitalis and the compound of jalap powder.

Dr. **Thrasher** thought that in connection with this disease the therapy was of the utmost importance to the practitioner. Remedies should be used in sufficient quantities to produce their effect. This is true of pilocarpine. It is foolish to expect any results from the administration of one-twelfth grain of the drug, if the skin is very dry. He would give three or four times the quantity, in repeated doses. Speaker did not consider it a wise procedure to give a hypodermic dose of morphia where patient had not passed her urine for thirty-six hours. He would give instead at least gr. ⅓ of pilocarpine, and repeat it in ¼ to ⅙ grain doses. No effect whatever could be expected from the administration of one-twelfth grain.

This, however, is not the most efficient method of treatment. He would rather depend upon the hot bath. Preferred the hot air or vapor bath to the water. About three weeks ago he saw a similar case. There was no history of previous trouble. The patient was of a robust constitution. Pupil was dilated. Complained of vertigo. Claimed not to have passed urine for forty-eight hours. Speaker catheterized the patient, but was able to draw off but two ounces of urine. Turkish baths were employed. Free prespiration followed. The bath was repeated every day for a week, at the end of which time the patient was well.

Infus. digitalis was given in ℥ss. doses, every four hours. Albumen decreased. He would again state that pilocarpine, if employed, should be freely administered. If baths are employed, he would advise the hot air or vapor baths, to relieve the system of the accumulated secretion through the skin. The hot water bath does not effect this so rapidly.

Dr. **Kiely** desired to report a case which he saw six weeks ago. The patient was a gentleman thirty-four years of age. family and personal history good. The symptoms complained of were attributed to dyspepsia, brought on by worry and excitement in connection with patient's business. There was present no œdema, nor dropsy, nor headache. Upon examination, albumen was found in the urine, and under the microscope, an abundance of hyaline casts, and some epithelial casts were discovered. Specific gravity was 1026. The interesting points in the case were that during the period of three weeks while under his observation, the average quantity of urine was passed. There was no evidence of dropsy. Digitalis and strychnia were given. The lesion had no doubt existed for some time. Speaker would prefer to pilocarpine an infusion of jaborandi, if a fresh article could be obtained. The most advisable treatment consisted of hot baths and digitalis. The latter remedy should, however, be given in the form of an infusion, made from the English leaves, since the American product is unreliable. To this he would give in addition cream of tartar lemonade. The jalap powder is also beneficial.

Dr. **Stewart** said that during the last few years he had seen several cases. One was that of a young colored man. Marked general œdema was present. Albumen and epithelial casts were found in the urine. The treatment employed consisted exclusively of the administration of cream of tartar lemonade. In three weeks a complete cure had been effected.

When the patient came under observation, but 4 ounces of urine was passed in 24 hours. In two weeks the amount had increased to 55 to 60 ounces in 24 hours, while at the end of three weeks a normal quantity was passed.

Speaker had the opportunity of seeing the good effects of the hot baths employed in the case of a little girl suffering with marked albuminura. During the last five months frequently the amount of albumen present was 5 per cent. Smallest quantity passed during this period, excluding that passed with the feces, was ½ ounce in 24 hours. In this case the hot baths proved most effective. The child was placed in a bath of hot water, temperature 99° to 100° and the water heated until it reached a temperature of 105°. Child remained in the bath for ten minutes, when it was wrapped in blankets, and allowed to prespire for one hour. This procedure always produced profuse sweating, and relieved the symptoms. The patient has taken some digitalis.

A third case was one of chronic Bright's disease. This patient would apparently recover, but suffered with repeated relapses. The uræmic convulsions were once relieved by the hot bath. He was discharged, but returned in two weeks, with uræmic convulsions imminent. Patient was enveloped in hot blankets, but this failed to dispel the convulsions, which finally ceased after placing the man into a hot bath.

Speaker had seen pilocarpine administered in a dose of ½ grain in a child, with a most marked and signal effect. The child recovered. In this case the depression following the administration of the drug was not marked.

Dr. Young said that during his service in the army he had seen many cases of Bright's disease following measles and malaria. The patients usually died.

After adopting however the method of treatment recommended by Beale, the majority of his cases recovered. Speaker applies heat, by placing sacks of heated hops, two or three pounds in weight upon the back and abdomen of patient, thus producing profuse perspiration. Besides this he gives jalap powder and bromide of potassium. Remembers a case of dysentery followed by Bright's disease, which he treated by this method. Another gentleman, the family physician advised digitalis and acetate of potassium. In twenty hours the symptoms were aggravated. He returned to the poultices and jalap powder and the patient recovered. Speaker has the greatest confidence in this treatment.

Dr. Nickles agreed on the whole with the last speaker. In acute attacks the kidney should be put at rest. The skin and intestinal mucous membranes should be employed to get rid of superfluous secretions. In a case, which he saw lately, he administered to the patient, first of all, a hypodermic dose of morphiæ, and under similar conditions he would not hesitate to adopt the same measure. It can do no harm, it allays the nervous symptoms and increases the activity of the skin. Does not give bromide of potassium, but after the morphiæ administers to the patient gtt. j of croton oil in two or three doses. This accomplishes as much as any remedy. In chronic cases speaker advised the compound jalap powder, (in the preparation of which he increases the proportion of the bitart. of pot), to be given daily. It makes very little difference in these cases, whether we employ the citrate, acetate, or bitartrate of potassium

All of these salts are converted into the carbonate, which acts upon the tissues in such a manner, that they give up their water and the increase in the amount of blood increase also the pressure.

Digitalis is worse than useless, since it increases only the blood pressure, by increasing the power of the heart. Provided the kidneys are healthy the amount of urine becomes greater, but if the kidneys are damaged, digitalis is harmful.

Dr. Whittaker was surprised to hear that digitalis is useless in kidney diseases. We have abundant proof of its good results. He has seen dropsy disappear in four or five weeks, which had existed for years. The remedy acts through the heart, which, with increased force, pumps the blood through the kidneys, flushing them out, and giving room for the secretion. He was anxious to hear of any authority making such statements as made by previous speakers. As far as his reading goes, digitalis is pronounced the sheet anchor in chronic lesions.

He was also surprised to hear the use of morphia criticized. Morphia is the best remedy for eclampsia, which in the majority of cases depends upon uræmia in nephritis, which disease occurs so frequently during pregnancy. Treatment appeals to the skin not for the purpose of eliminating, but to drive the blood from the kidneys, and thus effect mechanically an opening of the tubes. It is of very little importance whether the water or vapor baths are employed. The results obtained are about the same. Morphia for uræmic convulsions has certainly proven more effectual than pilocarpin. From his own experience in two cases, in which he administered this drug in large doses, he has come to the conclusion that it is a dangerous remedy, because of its depressive influence upon the action of the heart.

Believes with Dr. Kiely, that an infusion of jaborandi, if prepared fresh, may be used with favorable results. In the case which he had reported, small doses of pilocarpine had been given, because uræmic convulsions were imminent. It is not a rule that acute parenchymatous nephritis results in the chronic form, but the chronic disease is chronic from its very inception, and is only detected by the scrupulous physician and in most cases its existence is discovered accidentally. Does not think cases, which recover in three weeks are of the chronic variety, but rather of the acute, especially the one in which epithelial casts were found. Chronic parenchymatous nephritis is generally fatal. As a rule the patient dies about five years after the first symptoms have been discovered.

Dr. **Nickles** desired to reaffirm that digitalis does not act upon the kidney, if there is present organic disease of that organ.

Speaker does not wish to be misunderstood. Digitalis is not useless in all cases of dropsy due to kidney diseases, since it does add more power to the heart's action. But it is in organic lesions in which it has no effect. Digitalis is not a diuretic.

Dr. **Forchheimer** referring to the superiority of the English digitalis preparations over the American stated that if the same amount of care in the preparation of the American product be expended as in that of the English the same or better results could be obtained. A fresh specimen of the American leaf contains a greater percentage of digitalin than the English.

Last year the students at the Edinburgh University numbered 3,340. When its new buildings are completed it will be the largest university now existing.

It gives an idea how London grows that in a single week in February the births exceeded the deaths by 1,215. The death-rate that week was only 19.5 per 1,000.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Thursday Evening, March 13, 1884.

The President, Dr. Tyson, in the Chair.

Dr. J. H. **Musser** presented a series of specimens illustrative of hepatic pathology. This paper will be shortly published in another form.

Dr. C. B. **Nancrede** presented a penknife blade with the portion of bone transfixed by it, removed from the cranium of a boy aged 19 years, where it had remained undiscovered for over six weeks. Owing to later developments, the history of this specimen is also, for the present, withheld from publication.

Thursday evening, March 27, 1884,

The Vice-President, Dr. Shakespeare, in the Chair.

Case of Epithelioma of the Stomach and Colon, Presenting Singular Difficulty of Diagnosis.—Presented by Dr. J. H. Packard.

Dr. **Packard** stated that this case was placed at his disposal for report by Dr. H. M. Fisher, in whose wards at the Episcopal Hospital the man had been. Alex R., æt. 47, single, was admitted July 9, 1883. He had, for about four months, been unable to follow his occupation, that of a wagon driver. No history of syphilis, none of his family were known to have had cancer. His first symptom was discomfort after eating, later, loss of appetite, and pain in the stomach. Two months afterward he felt a hard, tender mass in his belly, on the right of the umbilicus. On admission the tumor seemed about the size of an orange, and was found to be on the left of the umbilicus. It was not very painful, but annoyed him. He was much emaciated, and in a cachectic state. His bowels were obstinately confined, Under treatment his condition improved, and he gained notably in appetite and strength. Subsequently a change for the worse took place, the tumor became more painful, he lost flesh and strength, and his appetite failed. As the tumor seemed to be entirely movable, it was decided that an attempt should be made to relieve him of it, and he was transferred to the surgical ward, under Dr. Packard.

October 11, 1883, after consultation, an incision was made over the tumor, in a vertical direction, and the tissues carefully divided until the abdominal wall proper was reached, when it became clear that there was firm adhesion between this and the new growth for a space of several inches in every direction. The operation was, therefore, abandoned, and the wound closed. Healing took place by the first intention, and the man even thought himself to have been benefitted, although this was clearly imagination on his part. Emaciation steadily increased, and toward the middle of November the stomach became unable to retain food. From this time the symptoms steadily progressed until death occurred December 29th.

Upon post mortem examination it was found that there was an epithelioma of the pylorus, which had been adherent to the transverse colon, and the disease propagated to that structure, a communication taking place between the two cavities. Subsequently, by a local peritonitis, the affected parts had contracted adhesions to the parietal peritoneum, at the point to which they had been displaced. The mechanicism of this displacement does not seem to clearly appear.

Malignant Disease of the Peritoneum and Abdominal Viscera.—Presented by DR. JOHN B. ROBERTS, for DR. V. HORNET, with an abstract of the latter's notes.

The patient, a woman of about 58 years, had, four years previous to death, an attack of gastro-enteritis, of malarial origin. From this she never perfectly rallied, but had four or five intestinal hemorrhages, at varying intervals. The last one occurred a few weeks before death. Recently she rapidly lost strength, and became emaciated. When seen by Dr. Hornet, some time in December, 1883, she had a large tympanitic abdomen, and complained of a feeling of tension. Constipation, jaundice, flushed cheeks, pulse 100 to 110, normal temperature, and a tendency to nausea and dyspnœa were the chief symptoms.

Ten days before death the thermometer in the rectum marked 103°, but stood, says Dr. H——, better in the axilla and under the tongue. Small nodules could be felt through the belly wall, which was less tympanitic than formerly. Death occurred suddenly while at stool.

Autopsy showed nothing important in the chest. The omentum and mesentery were studded with multitudes of tumors, varying in size from that of a currant to that of a hen's egg. They were of globular form, fibrin in consistency, and on section showed a central hemorrhagic clot. The parietal peritoneum was studded with a few small ones, as was the surface of the liver. Dr. H—— further says that he found in one part of the intestine an ulceration of the mucous membrane, corresponding to the external tumor, and a tumor on each side of the rectum, high up. In one place he found a cyst with yellowish serous contents on the surface of a tumor. Most of the nodules were of a pale pink color; one noticed, however, was nearly black. I present a portion of the intestine and mesentery, and a piece of the liver, with one of the secondary growths there found.

Malignant Disease of the Testicle, Tapped for Hydrocele. — Presented by JOHN B. ROBERTS, M.D.

This case is clinically interesting because it resembled a hydrocele, and misled me, as well as other surgeons who had previously seen it. When the man came to me I found a large oval swelling of left side of scrotum, which he gave me to understand had existed for two years. The tumor, for six or eight inches long in the vertical dissection, had a sharply defined upper limit, as does hydrocele of the vaginal tunic, and was indistinctly elastic, as a tense hydrocele. The veins on the surface, however, were well marked, and it looked at the lower part a little as if the subcutaneous tissue was about to suppurate. It was this which gave rise to the pain which induced him to seek medical advice at this time, for he had previously postponed having another surgeon draw off the yellow water which he had been told was in it. I did not at that time try to transmit light through the supposed hydrocele, because it is very often a fallacious test. At least, absence of light transmission does not negative the existence of hydrocele. I accordingly thrust a trocar into it and drew about six fluid ounces of pure, coagulable blood through the canula. Reinserting the trocar, I pushed it in various directions, but met only solid tissue and no blood, except when it was pushed in the direction originally taken, then blood flowed in a quite free stream.

No marked reaction followed, but this pain and tendency to suppuration was removed.

Two weeks later I removed the mass by enucleation, and found the solid tumor here presented, which is the enlarged and infiltrated testicle. The patient now says that fifteen years ago, when about eigteen years of age, the testicle or scrotum began to grow larger. He is now rapidly convalescing.

Rupture of one of the Aortic Valves under Severe Muscular Strain.

F. L., æt. 40, laborer, married, was admitted into the Episcopal Hospital under my care, February 21, 1884. His family history was good, and his own health, previous to his present indisposition, excellent. He denied ever having had syphilitis or rheumatism.

His work compelled him to handle very heavy casks, and he had the reputation among his fellow workmen of being a particularly strong man, he being able to lift, unaided, 500 pounds. Three weeks before admission he was subjected to heavy strains in lifting, and although no history of sudden cardiac pain or palpitation could be elicited, he did admit a sense of tightness and some dyspnœa after his day's work. These symptoms gradually increased, and cough, accompanied by bronchitic expectoration, soon made its appearance. On admission the patient presented the appearance of a remarkably well developed and powerful man; he was suffering from great dyspnœa, which was much increased upon exertion. Percussion showed impaired resonance over both lungs, posteriorally, which was not altered by change of position, and auscultation revealed numerous moist rales. The apex beat of his heart, though perfectly regular in its rhythm, was extended in its area, and in the nipple line of the fourth left interspace. Auscultation revealed a loud high-pitched musical murmur, systolic in time, with its point of greatest intensity over the upper part of the sternum; this was also audible over the whole chest. The peculiarity of this murmur was its decidedly vibratory character, like a torn sail flapping in the wind. The patient himself even noticed this.

With the diastole there was a second murmur, of much lower pitch, and not musical or vibratory in its character. This had its point of greatest intensity over the aortic cartilage. There was no apex murmur. Slight œdema of the legs and feet was present. Urine contained no albumen.

The patient was placed in bed and given digitalis, while counter-irritation and dry cups were applied to his chest posteriorly Under this treatment he rapidly improved, and was soon considered well enough to be about the ward, the dyspnœa only showing itself after any unusual motion or excitement. The murmurs remained in much the same condition as on admission, though the intensity of the musical murmur had lessened.

On March 20th, in the evening, after a day as well as usual, he was seized with a severe attack of dyspnœa, with congestion of the lungs; he was considerably relieved by the application of dry cups. The next morning it was noticed that the œdema of the legs had increased; the dyspnœa was still present, to a slight degree, and the only change perceived in the cardiac signs was a lowering of the pitch of the musical murmur.

On the 22d the dyspnœa had increased again, and for the first time a low, long apex systolic murmur was detected; this was conveyed plainly into the axillary line. The musical murmur was of still lower pitch than before, and at the aortic cartilage the murmurs were much more plainly of a see-saw character.

Irregularity of the heart action occurred now for the first time. On the 23rd, the area of cardiac dulness was as follows: In the horizontal line at height of nipple, the dulness began in the middle of the sternum, and extended to the left to a point half an inch beyond nipple. In the perpendicular line, drawn midway between the sternum and left nipple, the cardiac dulness began in the third interspace, and extended downward till lost in dulness of left lobe of liver. The area of dulness was not triangular, with the base downward.

Impaired resonance was now present over the whole chest, both anteriorly and posteriorly, and no cardiac sounds could be heard, on account of the great strides, and the violent movements of the chest. The apex beat could not be detected, for the same reason. After this the patient became more and more cyanotic and short of breath, and died on the same day, viz.: March 23, 1884.

THE AUTOPSY.

Each pleural cavity contained several ounces of serum.

The pericardium contained about one and a half ounces of serum, in which several shreds of lymph were discovered.

In both ventricles were large clots, partly chicken-fat, extending through the semi-lunar valves.

Weight of heart, after being emptied of clot and blood, one pound ten ounces.

The walls of the left ventricle were enormously hypertrophied, measuring seven-eighths of an inch at thickest part, the cavity appeared slightly distended, as did also the mitral orifice, which would allow the tips of three fingers to pass.

The right anterior leaflet of the aortic valves was torn at its posterior insertion into the aorta, thus leaving a free pointed end, about three-eighths of an inch long, to float in the blood current.

The left anterior leaflet presented two fenestrations, the posterior one the smaller, and near the insertion of valve in aorta at its upper margin, the anterior one the larger, and situated some distance down from the free border of valve.

The aorta, at its origin, was atheromatous in places, and slightly dilated, a patch existing at the point corresponding to the former insertion of the torn valves. The valves were normal, except for slight thickening. The coronary arteries were not atheromatous.

REMARKS.

In this case the atheroma of the point of insertion of the torn valve must have been the cause of the rupture during a heavy strain; should a fenestration have existed near the point of insertion, as exists in the left anterior leaflet, this would be a further reason for the rupture occurring at this point.

Frequently repeated great bodily exertion was the probable cause of the atheroma, as the man was a moderate drinker, and denied rheumatism and syphilis. A point of interest in the case was the peculiar character of the *systolic* aortic murmur, which was, as before mentioned, decidedly musical and vibratory.

As the patient did not suffer from sudden palpitation and dyspnœa at the probable time of the rupture, and as this murmur gradually diminished in pitch, while the regurgitant murmur became slightly more pronounced, it is probable that the tear at first was slight, and gradually increased under the great strain thrown upon it, thus increasing the area of the loose edge to be thrown into vibration, necessarily lowering the note produced.

The systolic apex murmur heard one day before death was due to the occurrence of an incompetency of the mitral valves from over distension of this orifice.

NEW YORK NEUROLOGICAL SOCIETY.

Stated Meeting, March 4, 1884.

The President, W. J. Morton, M.D., in the Chair.

Dr. C. L. Dana read a paper on "*Morbid Somnolence*" *relating a number of histories illustrating different forms of this affection.*

These forms are classified as follows:

1. Epileptoid sleeping-states.
2. Hysteroid sleeping-states including.
   (a.) spontaneous or "mesmeric" sleep
   (b.) trance and lethargic states.
3. Morbid somnolence, the expression of a distinct neuriotis (narcolepsy)
4. Unclassified forms.

The speaker's first case (illustrating class 3) was that of a young man of wealthy family and personal history who would go to bed at the ordinary hour and could not be roused till noon, or afternoon, or evening of the next day. This would continue for a week or two, when the symptoms would remit.

A second case (illustrating class 2) was that of a young lady who had short attacks of catalepsy, cataleptic *petit-mal*, alternating with sudden attacks of sleep. These came on several times daily. Three other cases, (illustrating class 3) were of neurasthenic persons who for several months had persistent drowsiness, not attributable to any nutritive or organic disorder.

Dr. Dana also reported a case furnished by Dr. L. Putzel, illustrating the epileptoid sleeping states.

DISCUSSION ON DR. DANA'S PAPER.

Dr. Wm. M. Leszynsky: "I know of two cases which might be termed a mild form of morbid somnolence, where the patient would fall asleep at almost any hour of the day while reading or conversing, the sleep lasting at times for an hour or more.

The cause of this somnolence seemed to me to be undoubtedly due to faulty assimilation of food and was cured by the use of nitro-muriatic acid etc."

Dr. Weber: I have seen but a few cases. In diabetes morbid somnolence is believed to be a prominent sympton; I have seen twenty or thirty of such cases, well pronounced, but have not seen one case where morbid somnolence prevailed; on the contrary, the patients did not sleep as much as normal.

I remember two cases of locomotor ataxia, in which there was a great tendency to prolonged sleep; in one of these cases, the man would sleep often fifteen hours at a time.

I have observed sopor in chronic endarteritis, in a number of cases, especially, in cases where the condition of cerebral arteries tends to apoplexy. There was one man who would fall asleep during dinner, be taken up to bed, and there sleep till the next day.

Drs. Roberts and C. E. Nelson made remarks, giving cases, as to making up sleep-time after prolonged vigil; Dr. Roberts remarked that sopor was met with in his case of myxœdema, read previously before this society, and published in this journal; in such cases, sopor is recogized as a symptom of disease.

Dr. Shaw (of Brooklyn) related a case of a man who would fall asleep in the clinic.

Dr. R. B. Prescott said: I have one case bearing on this subject Mr. President, which came into mind while Dr. Dana was reading his paper, and which, as it may not be altogether without interest, I will relate. It is that of a farmer, unmarried, forty years of age or more, living in a small village of Massachusetts, who, some ten years ago, began, without any apparent cause, to be troubled with excessive drowsiness. It manifested itself first in a disposition to sleep unreasonably long in the morning. He would remain in bed until long after the breakfast hour, and complain at intervals during the day of still feeling sleepy. Gradually he came to neglect the work of his farm, and remained about the house dozing away a considerable portion of the time. His social nature, too, underwent a decided change. He became reserved and silent. He shunned all intercourse with friends and acquaintances, was with difficulty made even to answer ordinary questions and was easily moved to tears. On one occasion I was told that he fell asleep on his wagon while taking a load of produce to the nearest market town, and slept soundly for many hours, his horse having of his own will taken an unfrequented road and finally stopped at the place where he was found, the driver still fast asleep.

His condition at present is that of a gradually deepening mental lethargy. He passes a large portion of his time in bed, and takes little interest in what takes place around him, though at times he partially arouses and will read the newspapers or carry on a brief conversation—mainly in monosyllabic replies to questions. His bodily functions are all normal and there is no evidence of any physical disease. His general health was good up to the time of the appearance of this morbid somnolency, and he is not the subject of any hereditary taint, so far as known. He is now regarded by those who know him as mildly insane, and his recovery is not expected.

The President said; I have seen and treated but one of these very peculiar cases which I should be willing, following Dr. Dana's lines of diagnosis to classify as true morbid somnolence. Of course those who sleep after prolonged forced wakefulness do not fall within the author's categories.

As an instance of simple sleep of this nature I well remember of sleeping twenty-four hours without a moment of recollected consciousness after two days and two nights in the saddle during a time of great danger. This may be said to be simply normal somnolence. The case of morbid somnolence I refer to was that of a physician in this city who had suffered from this condition for fifteen years. He was habitually overcome by an incontrollable desire to sleep during the day time no matter how malapropos the time or place; this desire he would fight against with all his power of control but would finally yield to sopor. Even in the dentist's chair while a sensitive tooth was being "scraped" he has fallen asleep. Often in the rounds of daily practice he would feel this lethargy creeping over him at critical moments, as for instance when his services were most needed at a confinement, and would be forced to yield to it and sleep. It was impossible for the same reason for him to read or study: In fact life was becoming to him a soporific blank.

Other symptoms were forgetfullness, frontal and occipital headache, a general malaise, great sense of weariness, palpitation of the heart on active exercise, and prostatic irritation. He had been examined time and time again by friends of eminence in the medical profession for oaganic disease and none existed. The urine especially had been the subject of careful tests. I repeated these examinations with no better results. Malaria was out of the question. I treated this patient on the basis of a profound anæmia—gave him large and increasing doses of iron

(Bland's pills) until he was taking thirty grains three times daily, gave him additionally, glonoin. Under this treatment he improved wonderfully, and at his last visit several months ago he reported that he seldom fell asleep during the day.

Dr. DANA, in closing the discussion, gave a similar case to the English farmer; this case, would have periods of remission for several years. These cases are supposed to end in insanity. There is persistent drowsiness in diabetes, and in syphilis; also, previous to attacks of epilepsy. There is recognized a "sleeping sickness" in Africa; the French authority, Ballet, mentions these conditions.

Treatment of Wry Neck by Sulphate of Atropia.

By W. M. LESZYNSKY, M.D.

The reader related the history in the case of a young woman whose occupation being that of a bookfolder she was obliged to turn her head very frequently toward the left side. The right sterno-cleido-mastoid and trapezius muscles became affected with a very severe from of clonic spasm which almost exhausted the strength of the patient. The treatment adopted was the the daily injection of sulphate of atropia into the contracting muscles, beginning with grain 1-80 and gradually increasing to grain 1-6, which maximum dose was continued four days when recovery supervened.

In addition to the atropia galvanism was used, and the faradic current was applied to the opposite side.

DISCUSSION.

Dr. J. C. SHAW: I have been called three times in consultation in these cases where atropine was used; there was a great deal of pain, and marked neuropathic tendency; insanity in the family, in one case. There is one difficulty in the treatment by atropine, that it sometimes causes disagreeable symptoms; especially in delicate women. In one case, where the drug was pushed it caused such distress that the patient a woman, refused to take it longer. Atropine in large doses cannot be used in all cases therefore.

Dr. C. L. DANA said, that Dr. Leszinsky was entitled to great credit, in employing atropia against such physiological odds. He believed that the cure was due to the employment of atropia. One point must be borne in mind, and that is that we must select our cases, in those cases when the disease is plainly neurosis, atropine may answer. In many cases, however, the disease appears to be of a peripheral and rheumatic character. Here anti-rheumatic remedies answer better.

Dr. GIBNEY: In view of the fact that Dr. Leszynsky administered electricity and other agents as his report shows, some doubt might be expressed as to the curative effects of the atropine injections. The relationship of cause and effect does not seem sharply enough defined. I have had no personal experience with this drug in torticollis. A few years ago in a case of rotary spasm of the head I had very prompt and excellent result in the use of the fluid extract of gelseminum carried to tonic doses. Dr. Leszynsky certainly deserves credit for the heroic dosage of atropine in this case.

Dr. BIRDSALL related the history of a case of torticollis treated at the Manhattan Hospital by his assistant Dr. Perriberry in a child about eight years of age, by the application of as strong a galvanic current as could be endured for from twenty to thirty minutes, on the affected muscles, three times a week, for several weeks. With gradual improvement which finally terminated in complete recovery. Tincture of belladonna was administered in drop doses, until slight physiological effects were produced. Dr. Birdsall was inclined to credit the curative effect in this case mainly to the galvanism though he thought that a combination of the method with atropia and, that of galvanism would in general be far more servicable than either alone.

Dr. WEBER: Was a traumatic effect produced by the hypodermic injections?

Dr. LESZYNSKY: The injections were made into the substance of the muscle, and no traumatic effect was produced. The preparation of atropia used was Merck's and the solution was freshly prepared every two or three days.

Dr. DAVID WEBSTER: I have listened to Dr. Leszynsky's paper with much interest. Although I have seen but few cases of wry neck I have had a good deal of experience with atropine, and I beg leave to question whether the same results might not have been accomplished by smaller doses applied locally. For the purpose of relaxing the sphincter pupillæ and the ciliary muscle we never give atropia by the mouth or hypodermically, but always apply it locally—to the surface of the eyeball. Less than one twenty thousandth of a grain applied to the conjunctiva will paralyze the muscles I have named, while it would require a many times larger dose to produce the same effect if given hypodermically.

It is remarkable that Dr. Leszynsky's patient tolerated so large a dose as one sixth of a grain. There is a wide difference in the quantity required to produce the physiological effects of the drug in different persons. I have frequently seen a drop of a four-grain solution, applied to the eye, produce the peculiar scarlet flushing of the face, especially in infants. I also know of a case in which a single drop in the eye caused marked delirium in a lady, so that she had to be taken home in a carriage. I have had some personal experience with the physiological effects of atropia. I once swallowed what I supposed to be ten drops of Magendie's solution of morphia to check a diarrhœa while I went to Brooklyn to assist in an enucleation. On the way I noticed that I felt very strangely, going off into curious dreams, entering into imaginary conversations, etc. When I got to the place of operation I found on attempting to talk that I could scarcely speak above a whisper, my mouth and throat were so dry. Dr. Agnew noticed that my face was flushed and my pupils dilated. I went home and went to bed, and slept soundly until the next morning. As soon as I awoke it dawned upon me that I must have taken atropine instead of morphine. As soon as I saw Dr. Agnew he told me he had arrived at the same conclusion. I found the atropine and morphine bottles side by side on my table. The mystery was explained.

I once saw a case in the practice of a brother practitioner where one sixteenth of a grain of sulphate of atropia given with half a grain of morphia subcutaneously produced delirium lasting for half a day or more. This was in a hysterical lady who was used to hypodermics of morphia without atropia.

Dr. Leszynsky's method of giving the drug was a perfectly safe one however, as he cautiously felt his way, from smaller to larger doses.

Dr. G. W. **Jacoby** said: "It was not my intention to make any remarks upon this subject, as the objection which I intended to raise to the indiscriminate employment of galvanism and atropine in the treatment of Dr. L'. S. case, has already been made by some of the preceding speakers; but Dr. Gibney's remarks in reference to the facility of producing the physiological effects of atropine, in some cases, by very minute doses, recall to my mind vividly a case in which this was also very noticeable. The patient a girl aged twelve years, came to me affected with a left sided tonic torticollis, probably of rheumatic origin. My results with electricity upon other cases having been unsatisfactory I determined to treat this case by the hypodermic injection of sulphate of atropia. I therefore injected 1-50 of a grain of the drug.

This one injection produced all the symptoms of atropine poisoning ending in a violent delirium which lasted for ten hours.

When the patient had recovered from the effects of the atropine I naturally felt reluctant to continue its use, and began treatment of the torticollis by galvanism. After two weeks the child was discharged from treatment entirely recovered.

The points that I wish to mark are firstly the small amount of atropine necessary in this case to produce delirium, and secondly the fact of a cure by self limitation or possibly through the action of the galvanic current. Had no ill effects resulted from the use of the atropia, I would probably have continued its use, and my patient recovering, it would have been only natural to attribute this recovery to the use of the atropine.

Therefore we cannot be too cautious in drawing conclusions from a single case, no matter how well observed, and we should be very careful not to use two potent remedies such as galvanism and atropine simultaneously, as our scepicism in regard to the efficiency of either one will not be considered scientific proof of the beneficial action of the other.

Dr. **Leszynsky**, in closing the discussion said: As Dr. Dana saw the patient referred to in my paper I am pleased to hear that he agrees with me in stating that recovery was due to the employment of the atropia.

In reporting the history of this case, I expected that the question would arise as to which of the remedies employed has effected the cure, therefore I was not surprised to hear the criticism of Drs. Gibney and Jacoby, and in reply I will state that the number of cells used in applying the galvanic current was from ten to twenty of a Stohrer portable battery. The patient could not tolerate a stronger application and this was continued for nearly fifteen minutes daily. After the removal of the electrodes I found that the spasm invariably became more vigorous than ever and I always allowed about ten minutes to elapse before injecting the atropia.

I would again direct the attention of the society to the fact that notwithstanding the daily application of galvanism in conjunction with the use of atropia, *no improvement was shown until the twentieth day soon after a rapid increase of the atropia from grain one twentieth to nearly grain ⅛*. Then the improvement became so evident that it can hardly he doubted that the atropia was the important element which effected the successful result. In regard to the use of the bromide of sodium I can safely say that bromism was not produced. The faucial reflex was frequently tested and remained well marked throughout the entire course of treatment.

Dr. Webster's suggestion may be a very good one if we accept it from an ophthalmological standpoint, but in this class of cases I cannot see what advantage could be gained by the inunction of the oleate of atropia.

The object in using this sulphate of atropia was to produce paralysis of the trunk and branches of the spinal accessary nerve, therefore it was injected into the substance of the muscle for the purpose of producing its *local effects* on the motor nerve, although eminent authorities like Ringer and Fraser have concluded after an elaborate series of experiments upon living animals, that atropia paralyzes the motor nerves through its action upon the spinal cord and not by its action through the circulation. I believe that the oleate if applied locally would produce more rapid constitutional symptoms on account of its speedy absorption, and another objection is that the dose cannot be so accurately determined.

In conclusion I will state the patient remains well and that no sign nor symptom of spasm has since been shown.

Nomination of Officers for the ensuing Year:

President, Birdsall, Gray, Morton, and W. A. Hammond. First Vice-President, C. L. Dana; Second Vice-President, G. W. Jacoby; Recording Secretary, E. C. Wendt; Corresponding Secretary, W. M. Leszynsky; Treasurer, E. C. Harwood; Councillors, (five) Weber, Sequin, Jacobi, Morton, W. A. Hammond, McBride.

Original Articles.

TYPHOID FEVER, WITH PERFORATION OF THE BOWEL.

TWO CASES, WITH ONE DEATH AND ONE RECOVERY.

By L. H. McCoy, M.D., Lake, Indiana.

I was called to see Wesley S., æt. twenty-one years, October 17, 1883, and learned from the family he had been ill for three or four days. Supposing his trouble to be due to "malaria," sulphate of quinine had been given him in four or five-grain doses, as many hours apart, for a day or two previous, with no perceptible effect. He had taken a "dose" of pills and the bowels were moved freely, and I found they were rather troublesome and the stools quite offensive. Tongue coated with a whitish-yellow fur, and dry; temperature, 104½ F; pulse, 90, full and hard; skin hot and dry. Thinking I had a case of typhoid fever to deal with, I informed the father that Wesley's fever was likely to continue regardless of treatment. Left five powders, each containing sulphate of quinine grs. viii., and pul. dov. grs. iv., one to be given every four hours, and ordered him sponged with cold water late in the evening.

October 18th, 4 p.m., patient's condition about the same; no reduction of temperature. Gave a cold bath, and left sulphate of quinine ℈ii, divided into three equal *doses*, one to be given at 8 p.m., one at 8:30, and the other at 9. Gave dilute hydrochloric acid after the quinine, and would say here that the acid was given *well diluted*, at intervals of about four hours, for more than one week, as part of the treatment.

October 19th, temperature, 103½; patient's condition otherwise about as on the two days previous, except that the bowels were more troublesome, moving at times involuntarily.

October 20th, 21st, 22d, 23d, 24th and 25th, temperature ranged at about 103½ in the evening and 102 in the morning, and the treatment consisted of sulphate of quinine (about grs. xxv.) given in divided doses each evening, as on the 18th and 19th, with pul. opii. to restrain the bowels. No very great difference in patient's general symptoms up to this time, except that he was at times delirious, and on two occasions it was necessary to relieve the bladder with the catheter.

October 26th, p.m., temperature, 102½; pulse, 100; quinine discontinued; some abdominal tenderness. Turpentine (about xv*m*.) in emulsion, every six hours.

Saturday, October 27th, 6 p.m., pulse, 110; temperature, 102°. Very little tympanitis and tenderness about the bowels, which have been more quiet for the last three or four days. As the temperature is slowly on the decline, there is some hope now of recovery. Still there is considerable delirium, with cephalalgia at times. Milk has been given liberally from the beginning, and good whisky for several days past in the form of "toddy."

Early on the morning of the 28th I visited my patient, and upon examination found that all hopes of his recovery had vanished. Temperature was not taken; pulse, 140 per minute; *weak* and *thready*; respiration about 40, and thoracic; expression of face, anxious and haggard; bowels, tympanitic, and the delirium increased. During the night the patient was troublesome to keep in bed, and the watchers stated that he had made considerable exertion on several occasions in attempting to get up, and that after he quieted down he steadily grew worse. With such a sudden and extreme change at this stage (about fourteenth day) and the train of symptoms that followed, "perforation" of the bowel was thought to have occurred.

Death came to the sufferer's relief about 7 a.m., Monday, October 29th.

I was requested to see Frank S. (a brother to patient No. 1.), æt. fifteen years, November 19, 1884, and found that he had already passed through the prodromic stage of typhoid fever, a period in his case of one week or more. I found his temperature to be $104\frac{8}{10}$° F.; pulse, 120; respiration, 36; tongue covered with a whitish fur, except tip and edges, which were red.

As in the first case, small doses of sulphate of quinine had been given him at intervals for two or three days, and he had been purged with "pat. pills." I treated him with the large doses of sulphate of quinine in the evening, and dilute hydrochloric acid, as in case No. 1, and he got along quite well; could take sufficient nourishment all the time, such as milk, soups, etc. Food, in liquid form, was the only food allowed from the beginning, and the *possible danger* of taking food in solid form explained to the parents. Had no trouble with the bowels, which were rather constipated.

Patient did so well that after November 23d I discontinued my visits, but left my thermometer, and had the temperature taken and reported to me. The temperature steadily declined, and on the morning of November 28th was reported to be 98½. In the evening of the same day I called for my thermometer, and to see if patient *was really as well* as had been reported. I learned upon inquiry "that the bowels had not moved for three or four days." Gave a mild injection (warm water), which was followed in less than an hour by a free operation. Stool was semi-solid, and rather healthy looking, but had the *offensive smell* characteristic of typhoid fever. I left the patient well pleased, and with the prospect of his having no further trouble.

November 29th, 10 a.m., patient reported as still doing well. "He had been whistling and singing, and had joked about wanting to go to the field to help gather corn."

Imagine my surprise when, in less than two hours after receiving the above flattering report, I was summoned in haste to the bedside of my patient to find him in a condition of collapse, and suffering intense pain in the bowels. While micturating he had been suddenly seized with pain in the right illiac region, and the shock that followed immediately checked the flow of urine, leaving, as was shown soon afterward, some eight ounces in the bladder. Hemorrhage was feared, still no blood had been passed. Opium was given and a cold cloth applied over the seat of pain, and strict quiet enjoined. With this done I left the patient for about two hours. When I returned I took his temperature and found it to be $102\frac{1}{8}$° F.; pulse, quick and thready; respiration, hurried and thoracic. There was nausea, tenderness of the bowels, and considerable tympanitis. Peritonitis rapidly developed. I therefore no longer doubted as to what had occurred, as I could ascribe such a chain of symptoms to nothing save perforation of the bowel. Full doses of pul. opii. were given and applications of warm hops used over the abdomen, and the directions previously given as to quiet urged to be strictly followed. The fever increased, so that by 6 p.m. the temperature reached 105½°—its highest point.

November 30th, a.m., general condition much the same; temperature, 102°. Pain greatly relieved by opium. Vomiting occurred once or more during the night, and at times diaphoresis. The treatment was continued, except that the tinct. opii. was given in aq. cin., with bis. sub. nit., the pul. opii. disagreeing with the stomach. This mixture was well tolerated, and had a very favorable effect. Turpentine epithemas were applied occasionally and the hops continued as before. Small quantities of milk, at short intervals, have been pretty well tolerated from the beginning, and stimulant administered as indicated.

December 1st, no change of importance.

December 2d, p,m., great restlessness; temperature, 103½°; pulse, quick and thready. Vomiting, and at times profuse sweating.

December 3d, a.m,, patient has rallied somewhat, and temperature declined to 102°; tympanitis, etc., as before. From this time forward the temperature ranged between 101° and 102°.

December 4th, 5th, 6th, and 7th, no change of great importance; treatment continued.

Patient has been kept quiet upon the back almost all the time, and not allowed to rise up for anything. To relieve the bladder, he turns toward the right side and uses a pan. He now has a worn and anxious appearance. The general tympanitis has somewhat subsided, but there is a distinct bulging at the seat of injury.

December 8th, a.m., no change worth noting; p.m., gave a small enema of warm water with one teaspoonful ol. racini; very little effect. (Not much desired, except to satisfy patient and others.)

December 9th, the *lower bowel* was relieved by enema; stools dark and *very offensive*. Hop applications discontinued and tinct. iodine used freely over the area, infiltrated in the right illiac region, and warm flannel cloths kept over the abdomen.

December 10th and 11th, patient not so well; considerable tympanitis has developed in epigastric region. Hop applications reapplied.

December 12th, bowels moved spontaneously. The motions were *exceedingly offensive*—the first that has evidently passed from the upper bowel since the lesion occurred, *fourteen days* previous. Now, as might have been expected, the epigastric tenderness and tympanitis subsided, and the vomiting, which had occurred once or twice daily, also disappeared, and from this time forward the patient *slowly* improved. A chalybeate tonic was now given and also pot. iodide, and the tinct. iodine continued locally. If pus formed at the seat of injury it was not observed to pass from the bowels. The infiltration following the inflammatory action at seat of lesion was slowly relieved, apparently, by resolution; so that in two weeks more, or by December 25th, patient could sit up a little, and in one month more could begin to do light work.

He informed me to-day (March 22d) that he still suffered at times from pain in that part of the bowels where the trouble occurred.

As will be seen in the foregoing reports, the temperature never rose above 103½°F. in either case after the second day's treatment. Hence, it was not thought necessary to resort to the *extreme* antipyretic treatment, as recommended by Leibermeister. Still, as will be remembered, the full doses of sulphate of quinine were given each evening, and sponging or bathing with cold water whenever the skin was hot and dry.

Will the *antipyretic plan* of treatment, *strictly followed*, afford our typhoid fever patients more security against hemorrhage and perforation of the bowel than any other?

"CAN PSYCHOLOGY BE DISSOCIATED FROM PHYSIOLOGY."

A paper read before the Dearborn County Medical Society, at Aurora, Ind., March 25, 1884.

By D. H. JAMES, M.D., Aurora, Ind.

Among all the subjects incorporated with medical science, physiology and psychology occupy the front rank in importance, both in relation to the health and happiness of the human race, and also, to the amelioration of the condition of the domestic animals under the control of man.

The words psychology and physiology are derived from the Greek—the former from *Ψμχη*, (soul), and *λογος*, (discourse); the latter from *φοσις*, (nature), and *λογος*, (discourse). Modern usages have modified and limited the meaning of both terms in the sciences bearing these names.

In opening the discussion of this question, I shall principally dwell (in the physiological portion) on human physiology, only introducing comparative animal physiology incidentally. Of course vegetable physiology has no immediate connection with this question, except that it forms part of the organic cosmos, and may be referred to as one of the means for the development of the animal organism. But we must remember that all cognition is from the phenomenon or the relative. The noumenon or the absolute transcends human research.

With these few preliminary remarks as an introduction, let us first inquire how, or by what means, the human organism is placed in communication with nature external to himself or the non-ego, and also with the ego or self. My answer is: The nervous system and its appendages. The nervous system is an assemblage of various organs, namely, nerve-centers, nerves, and peripheral end-organs. The brain and spinal cord, constituting the cerebro-spinal axis, inhabit the cranial cavity and spinal canal, and are the largest and most important nerve-centers. In addition to these, there are small nerve-centers called ganglia. The nerves are messengers or internuncial structures, and may be considered as somewhat similar in action to the telegraph wire and the electric battery—the former the conductor, or nerve, the latter the motive power, or nerve-center.

The organs of sense, by which the mind becomes cognizant of the various forms and properties that are external to itself, are the eye, nose, ear, tongue, and skin. These organs are common to man, and to a large number of animals below him; in fact, some are even more fully developed in the lower animals than in man himself (for example, the eye of the eagle and the nose of the dog), and in man, when deprived of the sense of sight, the sense of touch is often more fully developed than the organ in the general normal condition. There are two sorts of nerves—sensory and motor, or afferent and efferent, as named by physiologists from the different functions they perform—the one transmitting to the nerve.centers, the other from the nerve-centers. Each afferent nerve does its own particular work. The optic transmits only the impressions of form, color, etc., to the nerve-center; the auditory only that of sounds, and so on with the other nerves from the sense organs. In addition to the nerves from the sense organs, there are nerves from all the internal parts of the body.

Professor W. B. Carpenter, in his general summary on the nervous system and its functions, writes: "It is well remarked by Cuvier that the different tribes of animals may be said to be so many 'experiments ready prepared for us by nature, who adds to or takes from the aggregate of their organs, just as we might wish to do in our laboratories, showing us at the same time, in their actions, the results of such addition or subtraction.'"

And to no part of the organization of animals is this view more applicable than it is to the nervous apparatus; for the different ganglionic centers which are combined in the cerebro-spinal system of man and the higher vertebrates, have such an intimate structural relation to each other, and so much more frequently act consentaneously than separately, that, notwithstanding the abundant evidence of the diversity of their respective endowments, there is considerable difficulty in the determination of their special functions; since the destruction or removal of any portion of the nervous system not only puts a stop to the phenomena to which that portion is directly subservient, but so deranges the general train of nervous activity that it often becomes impossible to ascertain, by any such method, what is its real share in the entire performance. Under the guidance of comparative anatomy, however, we are enabled to recognize the following ganglionic centers as essentially distinct in function, however intimately connected in structure:

1. The spinal cord, consisting of a tract of ganglionic matter inclosed within strands of longitudinal fibers, and giving off successive pairs of nerves, which are connected at their roots with both of these components.

This obviously corresponds with the gangliated ventral cord of the articulata, chiefly differing from it in the continuity of the ganglionic tract, which occupies its interior; and each segmental division of it, which serves as the center of reflex action foi its own pair of nerves, may be considered, like each ganglion of the ventral cord of the articulata, as a repetition of the single (pedal) ganglion of those molusca which have but one instrument of locomotion.

2. The medulla oblongata, or prolongation of the spinal cord within the skull, which consists of a set of strands that essentially correspond with the cords passing round the asophagus in invertebrated animals, and connecting the cephalic ganglia with the first ganglion of the trunk; although, as the whole cerebro-spinal axis of the vertebrata lies above the alimentary canal (the trunk being supposed to be in a horizontal position), there is no divergence of these strands to give it passage. Interposed among them, however, are certain collections of ganglionic matter, which serve as the centers for the reflex movements of respiration and deglutition, corresponding with the separate respiratory and stomato-gastric ganglia found in many invertebrated animals.

This incorporation of so many distinct centers into one system would seem destined to afford to all of them the protection of the vertebral column, and in part that consentaneousness of action, and that ready means of mutual influence which are peculiarly requisite in beings in whom the activity of the nervous system is so predominant.

Thus the close connection which is established in the higher vertebrated animals, between the respiratory and the general motor apparatus, is obviously subservant to the use which the former makes of the latter in the performance of its functions, whilst on the other hand the control which their cephalic centers possess over the actions of the respiratory ganglia enables the will to regulate the inspiratory and expiratory movements in the manner required for the acts of vocalization.

3. The sensory ganglia, comprehending the assemblage of ganglionic masses lying along the base of the skull in man, and partly included in the medulla oblongata, in which the nerves of the special senses, taste, hearing, sight and smell have their central termination.

With these may probably be associated the two pairs of ganglionic bodies known as the corpora striata and thalami optici, into which may be traced the greater proportion of the fibres that constitute the various strands of the medulla oblongata, and which seem to stand in the same kind of relation to the nerves of touch, or common sensation, that the olfactive, optic, auditory and gastritive ganglia bear to their several trunks.

These ganglia, the aggregate of which constitutes the sensorium, are the centers of reflex movements prompted by the impressions brought to them by the several nerves of sense.

The foregoing together constitute the automatic apparatus which ministers to our purely animal or outer life, namely, the functions of sensation and locomotion, and which also sustains the movements that are necessary for the maintenance of our organic functions.

To this apparatus is superadded

4. The cerebrum—the instrument of our psychical or inner life, of which organ, although it is so enormously developed in man as apparently to suppress the sensorial centres, scarcely a trace exists in the lowest vertebrates, and the relative proportion borne by each to the sensorial centres, in regard alike to size and to complexity of structure corresponds closely with the degree of predominance which the intelligence possesses over the animal instincts.

Much of its action, however, may still be purely automatic in its nature, for so long as the current of thought and feeling flows on in accordance with the direct promptings of suggestion, and without any interference from volition, it may be considered as a manifestation of the reflex activity of the cerebrum, which takes the form of a mental instinct.

This reflex activity manifests itself not only in the psychical operations themselves, but also in muscular movements, and these, when they proceed from simple ideas, without any excitement of feeling, may be designated as ideo-motor; whilst if they spring from a passion or emotion, they are termed emotional.

The mental instincts, however, are by no means as invariable in the different individuals of the same species, as are the animal instincts of that inferior part of the nervous apparatus which is more closely connected with the maintenance of the organic life; the particular changes which any given suggestion will excite in each individual, being partly determined by original constitution, and partly by a acquired habits; and the hereditary constitution being itself determined to a large extent by the acquired habits of the ancestral race.

There seems a strong probability that there is not (as was formerly supposed) a direct continuity between all or any of the nerves fibres distributed to the body, and those of the medullary substance of the cerebrum.

For whilst the nerves of special sense have their own ganglionic centers, it cannot be shown that the nerves of common sensation have any higher destination than the thalami optici.

So, the motor fibres which pass forth from the brain, though commonly designated as cerebral, cannot be certainly said to have a higher origin than the corpora striata. And there is strong reason to believe that the cerebrum has no communication with the external world, otherwise than by its connection with the sensori-motor apparatus; and that even the movements which are usually designated voluntary (or more correctly volitional), are only so as regards their original source, the stimulus which immediately calls the muscles into contraction being still supplied from the automatic centers.

5. Wherever a cerebrum is super imposed upon the sensory ganglion, we find another ganglionic mass, the cerebellum, superimposed upon, the medulla oblongata.

The development of this organ bears a general, but by no means a constant, relation to that of the cerebrum; for in the lowest fishes it is a thin lamina of nervous matter on the median line, only partially covering in the fissure between the two lateral halves of the upper part of the spinal cord; whilst in the higher animals as in man, it is a mass of considerable size, having two lateral lobes or hemispheres, in addition to its central portion.

The direct communication which the cerebellum has with both columns of the spinal cord, and the comparatively slight connection which it possesses with the higher portions of the brain, justify the supposition that it is rather concerned in the regulation and co-ordination of the muscular movements, than in any proper psychical operations; and though its precise function is still unknown, that general conclusion seems in harmony with our best knowledge on the subject.

Now, although every segment of the spinal cord and every pair of sensory ganglia may be considered, in common with the cerebrum, as an independent center of nervous power, yet this independence is only manifested when these organs are separated from each other, either structurally by actual division, or functionally by partial suspension of activity. In their state of perfect integrity and complete functional activity they are for the most part (at least in man) in such subordination to the cerebrum that they only minister to its actions, except in so far as they are subservient to the maintenance of the organic functions, as in the automatic acts of breathing and swallowing.

The impressions which call forth these and similar movements ordinarily excite them by the direct reflex action of the lower centres, without passing on to the cerebrum; so that we only perceive them when we specially direct our attention to them, or when they exist in unusual potency.

Thus, we are ordinarily unconscious of that internal need of air, by which our movements of respiration are prompted, and it is only when we have refrained from breathing for a few seconds that we experience a sensation of uneasiness, which impels us to make forcible efforts for its relief.

Notwithstanding, however, that the cerebrum is unconcerned in the ordinary performance of those automatic movements, yet it can exert a certain degree of control over many of them, so as even to suspend for a time; but, in no instance, can it carry this suspension to such an extent as seriously to disarrange the organic functions. Thus, when we have voluntarily refrained from breathing for a few seconds, the inspiratory impulse so rapidly increases in strength with the continuance of the suspension that it at last overcomes the most powerful effort we can make for the repression of the movements to which it prompts.

That the will should have a certain degree of control over such movements is necessary in order that they may be rendered subservient to various actions which are necessary for the due exercise of man's psychical powers, but that they should not be left dependent upon its exercise, and should even be executed in opposition to it, when the wants of the system imperatively demand their performance, constitutes an essential provision for the security of life against the chances of inattention or momentary caprice, as well as for maintaining it during the unconsciousness of sleep.

In that action and reaction, however, between the mind and all that is outside, in which the conscious life of every human ego exists, the whole cerebral-spinal system participates.

For, in virtue of the peculiar arrangement of the nervous apparatus, every excitor impression travels in the upward direction, if it meet with no interruption, until it reaches the cerebrum, without exciting any reflex movements in its course. When it arrives at the sensorium, it makes an impression on the consciousness of an individual, and thus gives rise to a sensation; and the change there induced being propagated onwards to the cerebrum becomes the occasion of further changes in its cortical substance, the downward reflexion of whose results to the sensorium gives rise to the formation of an idea.

If with this idea any pleasurable or painful feeling should be associated it assumes the character of an emotion, and, either as a simple or as an emotional idea, it becomes the stimulus to further cerebral changes, which, when we become conscious of them, we call intellectual operation. These may express themselves either directly in respondent movements; or, indirectly, by supplying motives to the will, which may exert itself either in producing or in checking muscular movement, or in controlling or directing the current of thought and feeling.

But, if this ordinary upward course be anywhere interrupted, the impression will then exert its power in a transverse direction, and a reflex action will be the result, the nature of this being dependent upon the part of the cerebro-spinal axis at which the ascent had been checked. Thus, if the interruption be produced by division or injury of the spinal cord, so that its lower part is cut off from communication with the cephalic centers, this portion then acts as an independent center, and impressions made upon it through the afferent nerves proceeding to it from the lower extremities excite violent reflex movements, which, being thus produced, are designated as excito-motor. So again if the impression should be conveyed to the sensorium, but should be prevented by the removal of the cerebrum, or by its state of functional inactivity, or by the direction of its activity into some other channel, from calling forth ideas through the instrumentality of that organ, it may react upon the motor apparatus by the reflex power of the sensory ganglia themselves. Such actions, being dependent upon the prompting of sensations, are sensori-motor or consensual.

But further, even the cerebrum responds —automatically to impressions fitted to excite it to reflex action, when, from any cause, the will is in abeyance, so that its power cannot be exerted either over the muscular system or over the direction of the thoughts and feelings.

Thus, in the states of reverie, dreaming, somnambulism, etc., whether spontaneous or artificially induced, ideas which take full possession of the mind and from which it cannot free itself, may excite respondent ideo-motor actions; as happens also when the force of the idea is morbidly exaggerated and the will is not suspended, but merely weakened, as in many forms of insanity.

The cerebro-spinal system is intimately blended with another set of ganglionic centres and nerve trunks scattered through different parts of the body, but mutually connected with each other, which is termed the sympathetic system.

The principal ganglionic centers of this system are the two great semilunar ganglia, which lie in the abdominal cavity near the spine, and from which there issues a radiating series of trunks and branches, constituting the great solar plexus, to be distributed to the muscular walls of the intestinal canal along its whole length, and also to the various organs in connection with it.

There are two other principal, though smaller, systems of ganglia and nerves; one in connection with the heart and great bloodvessels, constituting the cardiac plexus; and the other in the organs of reproduction and other viscera contained in the cavity of the pelvis, constituting the hypogastric plexus. These plexuses communicate by connecting cords with a chain of prevertebral ganglii, which lie along the the front of the spine on each side; and this, in its turn, communicates with the spinal ganglia, which are ganglionic enlargements on the posterior roots of the spinal nerves. There are also several small ganglionic centers in the head which have the same kind of connection with its ordinary sensory and motor nerves that the prevertebral ganglia have with those of the trunk. In virtue of these communications the trunks and branches of the sympathetic system contain, in addition to their own fibres (which are distinguished from the cerebro-spinal by not possessing the double border that is given by the "white substance of Schwann"), a great number of fibres derived from the cerebro-spinal system.

On the other hand, the cerebro-spinal nerves contain sympathetic fibres, sometimes in considerable quantity.

The sympathetic system is sometimes designated the nervous system of organic life, to distinguish it from the cerebro-spinal system, which is the nervous system of animal life. Its motor action is exerted upon the muscular walls of the alimentary canal, of the heart and arteries, of the gland ducts, uterus and other organs, as has been experimentally proved by irritating these trunks after the death of an animal. But, as the very same contractions may be excited by irritating the roots of those spinal nerves from which the several sympathetic plexuses receive fibres, there is reason to believe that the motor endowments of the sympathetic system are chiefly dependent on its connection with the cerebro-spinal. And this seems to be especially the case with that very important division of the sympathetic which is distributed on the walls of the arteries, now known as the vaso-motor system. For the real center of this system, which has for its function to regulate the supply of blood to different parts, by its action on the calibre of the arteries, appears to lie in the medulla oblongata; from which also proceed certain nerve fibres (included in the trunks of the pneumogastric or parvagum), which have a special influence on the movements of the heart and which probably regulate their rate in accordance with that of respiratory action. No motor power can be exerted through the sympathetic system by any act of will; but the muscular actions of many of the parts just enumerated are greatly affected by emotional states, and this is particularly the case in regard to those of the heart and arteries. Thus we continually see the action of the heart quickened by emotional excitement, whilst a violent "shock" to the feelings may seriously reduce it (as in fainting) or may even completely paralyse it.

Of the action of the emotions, through the same channel, on the bloodvessels, we have a familiar example in the phenomenon of blushing; and this is only one of probably) a vast number of changes thus induced, some of which have a very important influence on our mental operations.

The bloodvessels that supply some of the glands most directly affected by the mental states, such as the lachrymal, the salivary, and the mammary, seem to receive their supply of vaso-motor nerves direct from the cerebro-spinal system; and it is by the influence of those nerves in determining the calibre of their arteries that the quantity of the secretion is regulated, as in the hidden flow of tears, of saliva, or of milk.

Those portions of the glandular apparatus, on the other hand, the amount of whose secretions is affected, not so much by mental conditions as by states of other parts of the visceral apparatus, are supplied by the sympathetic exclusively or nearly so.

Whatever sensory endowments are possessed by the parts supplied by the sympathetic system must be referred to the same connection with the cerebro-spinal system.

In the ordinary condition of the body there is no evidence of the possession of any such endowments, for the organs exclusively supplied by the sympathetic system perform their functions without our consciousness and no sign of pain is given when the sympathetic nerve trunks are irritated. But, in diseased conditions of those organs, violent pains are often felt in them, and experiment shows that whilst slight irritations of the healthy organs call forth no indications of suffering, such indications are manifested when the impression is made stronger. It is clear, therefore, that the effect of such impressions, when unusually strong, must be transmitted to the sensorium; and the reason why they do not ordinarily proceed thither is probably because the excitor impulse is usually expended in calling for the reflex movement through the sympathetic ganglia themselves.

There is a remarkable tendency to radiation in such impulses in virtue of the extraordinary intercommunication between the different parts of the sympathetic system and it is in this manner that those "morbid sympathies" between remote organs are established, which have a very important share in the phenomena of disease.

I think it must appear evident, even with this incomplete summary of the data of physiology, that molecular change in the cerebro-spinal system is the invariable concomitant in all the different phases of thought, whether sensational, emotional, or intellectual, and also in that wonderful power called memory or the recovery of past states of consciousness.

I said in my preliminary remarks that the noumenon or absolute transcends human research, and, if you will permit me, I will give a few passages from a work by that abused thinker, Herbert Spencer, on what he terms, "The Substance of Mind."

To write a chapter for the purpose of showing that nothing is known, or can be, of the subject which the title of the chapter indicates, will be thought strange. It is, however, in this case needful—needful because, in the absence of explanation, much that has gone before and much that will come hereafter may be misinterpreted, and needful also because we have to distinguish between that absolute ignorance and partial knowledge which may be asserted according as we give one or other meaning to the terms used. For, if by the phrase "substance of mind" is to be understood mind as qualitatively differentiated in each portion, that is, separable by introspection but seems homogeneous and undecomposable, then we do know something about the substance of mind and may eventually know more. Assuming an underlying something it is possible in some cases to see and in the rest to conceive how these multitudinous modifications of it arise. But if the phrase is taken to mean the underlying something of which these distinguishable portions are formed, or of which they are modifications, then we know nothing about it and never can know anything about it. It is not enough to say such knowledge is beyond the grasp of human intelligence as it now exists, for no amount of that which we call intelligence, however transcendent, can grasp such knowledge.

If it be admitted that molecular action is always connected with psychical action, may not cases of false memory, or the reproduction of what may be supposed to be past states of consciousness but were really not so, occur? I do not refer to the insane, where the nervous system is in a pathological condition, but the sane where the nervous system is in a normal condition. I think I have myself experienced these pseudo memories. I have also heard from many of my friends who have been subject to similar impressions; some have gone so far as to believe in a state of pre-existence. Should this prove to be a truth it may largely modify and explain some of the incongruities in our courts of justice and elsewhere.

I will close by stating that everything is interdependent: the mind upon the physical organism, that upon the vegetable organism, and that again upon the productions of inorganic nature—and my verdict is, that psychology cannot be dissociated from physiology.

THE TREATMENT OF RHEUMATIC FACIAL PARALYISIS.—At the close of a paper on this subject, read before the Berliner Medicinische Gesellschaft, on January 9th, DR. MORITZ MEYER, (*Deutsche med. Wochensch,*) drew the following conclusions:

In facial paralyses of a severe type, leeches, cataplasms, etc., are to be recommended—to hasten the cure on the one hand, and, on the other hand, to limit the number of degenerating nerve-fibres.

2. After the use of leeches, cataplasms, etc., direct manipulation over the nerves gives better results than have hitherto been obtained by electricity.

3. In chronic cases, the electric stimulus of strong faradic currents over the nerves should be tried, in order to stimulate the normal nerve-fibres, and increase the mobility and nutrition of the paralyzed muscles. —*Medical News.*

CHOREA SIMULATED BY DISSEMINATED SCLEROSIS. — M. Marie (*Jour. de. Méd. Prat.*, Oct., 1883) has collected fourteen cases of disseminated sclerosis in children, most of which were observed in England. The symptoms are the same as in adults, and may begin as early as the fourteenth month, but more frequently they do not appear before the third or fifth year. The disease is sometimes hereditary, but in other cases it follows some eruptive fever. It may be mistaken for hereditary tabes and chorea, but in the latter the involuntary movements persist during rest, and the muscles of the face, eye, and tongue are not affected.—*London Med. Journal.*

REMOVAL OF WARTS BY INTERNAL TREATMENT.—Dr. Et. Guénot reports (*Bull. Gén. de Thér.*) that he removed a large crop of warts from the hands of a patient by means of daily ten-grain doses of calcined magnesia, taken in the morning before breakfast.

THE CINCINNATI
LANCET AND CLINIC
A Weekly Journal of
MEDICINE AND SURGERY,
ISSUED EVERY SATURDAY.

TERMS, $3.50 PER ANNUM IN ADVANCE.

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EDITOR AND PUBLISHER,
281 W. 7th STREET, CINCINNATI, OHIO.

SUBSCRIBERS TO THE LANCET AND CLINIC who have not already remitted their subscription will confer a favor on the publisher by promptly doing so.

Cincinnati, April 12, 1884.

The Week.

DR. N. P. DANDRIDGE will read a paper at the next meeting of the Cincinnati Medical Society, Tuesday, April 15th.

ACADEMY OF MEDICINE.—Next Monday, April 14th, Dr. P. S. Conner will report a case of "Thrombosis of the Superficial Femoral," and present several pathological specimens. Dr. Ransohoff will present a specimen of malignant disease of the breast.

NEW YORK NEUROLOGICAL SOCIETY.—At the annual meeting of the New York Neurological Society, held April 1st, 1884, the following officers were elected for the ensuing year: President, Wm. J. Morton, M.D.; 1st Vice President, C. L. Dana, M.D.; 2d Vice President, Geo. W. Jacoby, M.D.; Recording Secretary, E. C. Wendt, M.D.; Corresponding Secretary, W. M. Leszynsky, M.D.; Treasurer, E. C. Harwood, M.D.; Councillors, E. C. Seguin, M.D., L. Weber, M.D., T. A. McBride, M.D., W. R. Birdsall, M.D. and Græme M. Hammond, M.D.

AMERICAN MEDICAL EDITORS. — The annual meeting of the Association of American Medical Editors will be held in Washington, D.C., May 5th, at 8 p.m., in Medical Hall, Southeast Corner of Sixth and F Streets.

The annual address will be delivered by President Leartus Connor, M.D., on "The American Medical Journals of the Future, as Indicated by the History of American Medical Journals in the Past."

Dr. N. S. Davis will open the discussion on "How far can Legislation Aid in Elevating the Standard of Medical Education in this Country?" In which Drs. A. B. Palmer, Henry O. Marcy, L. S. McMurtry, C. H. Hughes, Frank Woodbury, William Brodie, A. N. Bell, William B. Atkinson, W. C. Wile, W. R. D. Blackwood, Henry Leffmann, and Deering J. Roberts will take part.

All members of the profession, especially journalists and authors, are invited to be present and take part in the meeting.

JOHN V. SHOEMAKER, M.D., Sec'y.
Philadelphia, 1031 Walnut street.

Selections.

MEDICINE.

VERATRIA IN MUSCULAR TREMOR.—After small doses of veratria each muscle when stimulated reacts more vigorously, and the contraction lasts longer than in the normal condition. The increased duration of the single contraction is shown not only by the greater length of the myographic curve, but also by the fact that while thirty stimuli per second are needed to set a normal frog's muscle into tetanus some ten suffice to tetanise the veratrised muscle. The tremors of alcoholism, of central nerve-degeneration, of fever, etc., are due, according to Dr. Feris, to a condition of muscular contraction in which the impulses are not sufficiently rapid to give rise to tetanus. This may be owing to defective innervation as well as to muscular degeneration. Dr. Feris has used veratria in such tremors, giving it in pills of half a milligramme each (one-one hundred and twentieth grain), of which four were taken daily at intervals of an hour. Of thirteen patients so treated ten were suffering from alcoholism, two from disseminated sclerosis, one from sequelæ of typhoid. In all the tremors disappeared entirely in five to fifteen days. Improvement appears after the first day, as is shown by making the patients write before and (one hour) after each pill. The treatment should be kept up for ten days at least, or relapse may occur. The cases have continued well for two months at least after the veratria was stopped. (*Société de Biologie.*)—*The Practitioner.*

Contribution to the Study of the Treatment of Tineas.—Dr. A. Massay, *Th. de Paris.*

1st. The tineas being recognized as parasitic dermatoses, the rational treatment in this class of affections reduces itself to indications directed against the parasites. The two indications realizing these conditions are divided in favor among dermatologists:

1. *a.* Epilation which destroys the parasite in suppressing the organ which serves as it asylum.

b. Applications of a cosmetic of croton oil, which accomplishes the same end by inflaming, without destroying, the derma and hair follicles, and thus provoking the the fall of the infested hairs.

2. A cure or a notable amelioration is the rule when the disease is not too inveterate. This result may be obtained in a period which varies from three to eight months, and which necessitates from three to five frictions.

3. The method of treatment extolled by M. Descroizelles, has been reproached with exposing a greater liability to recurrence that the process of epilation. The observation related in our thesis prove that this reproach is, to say the least, exaggerated.

4. As to the inconveniences of the croton treatment in causing intense folliculitis, inflammations of the hairy scalp, and even the occipito-frontal aponeurosis (Kaposi), erysipelas, etc., the object of the topical application in the form of a cosmetic is to suppress them. The croton treatment has also been accused of having caused permanent alopecia as the result of inflammation. We can truly affirm that such severe accidents have never yet been produced in our young patients.

5. The only real inconvenience which we have witnessed has been the transfer of the applications to other surfaces, such as the conjunctiva; but this inconvenience is readily obviated if one takes the precaution to cover the hairy scalp with a protective envelope. Furthermore, we have never observed serious ocular accidents; sometimes a slight conjunctival hyperæmia, but nothing more.

6. As to erysipelas the statistics which we have reported in our chapter of treatment of tinea tonsurans show that this accident occurred only four times in a thousand frictions, and that it was always followed by a cure. These inconveniences are nothing compared to the violent and intense pain caused by epilation and the inutility of this procedure in the treatment of tinea tonsurans, since the hairs almost always break.

7. To sum up, we would say that the treatment by the croton oil cosmetic has given us the most satisfactory results in tinea tonsurans, and is encouraging in tinea favosa and in certain cases of alopecia.—*Journal Cut. and Ven. Dis.*

The Artificial Feeding of Children.—Dr. Uffelmann communicates to the *Deutsche Med. Wochensch.* of Sept. 19 a report on the artificial nourishment of children in the Hospice des Enfants Assistes in Paris. A separate department, called the "Nourricerie," has been insituted for this purpose, containing two wards separated by a corridor, with four beds for nurses and eight cots for infants in each. At the end of the corridor is a still, where five asses with their foals are kept, the presence of the foals being considered desirable to stimulate the secretion of the milk. When an infant is to be fed he is carried by his nurse into the stall, where she sits on a low stool by the side of the ass, and holds the child under the animal in such a way that he can suck conveniently. The babies takes to the nourishment apparently with as much relish as from their mothers, and the asses soon get used to their presence. One ass suffices for three children, and only after their wants have been appeased are the foals allowed to suck, extra nourishment being also given to them. The children thus fed have been, hitherto exclusively those of a syphilitic tendency, nearly all of whom died in the Foundling Hospital when fed by the bottle. Since the adoption of the abovementioned treatment, seventy per cent. have lived. Goats were at first employed instead of asses, but they were found to be much less suitable for the purpose, 82·6 per cent. of the children dying whilst taking their milk. The children are placed under very favorable conditions in other respects also, each nurse having only two children to look after, and always the same two, so that she becomes attached of them, and tends them better than if she were always changing them. The only drawback to the institution is its small size, as each child must be dismissed in about three weeks to make room for another; but it is hoped that funds for enlarging it may soon be procured.—*London Medical Record.*

DIRECT PULMONARY THERAPEUTICS. — A foreign correspondent of a contemporary says that at a recent meeting of the Académie de Médicine M. Sandras objected to treating bronchitis, laryngitis, and colds by entrusting therapeutic agents to the stomach and intestinal canal. The drug thus administered is absorbed, passes into the circulation, and reaches the organs requiring treatment after a very roundabout journey, even if it does not lose its way there. M. Sandras recommends that the laryngeal and pulmonary mucous membranes be acted upon by the direct inhalation of the vapor of turpentine and tar. The necessary apparatus consists of a bottle with a cork presenting two orifices. An india rubber tube is passed through one of the orifices, with its end at a little distance above the level of the fluid in the bottle. Another tube is passed through the second orifice; this is in communication with the air, and is passed into the fluid. The bottle is half filled with a mixture of chloroform, ether and turpentine, or with 100 grammes of turpentine poured on to 20 grammes of Norwegian tar. The inhalations should take place three times a day, and be kept up for five minutes, at the rate of fifteen or twenty respirations a minute. M. Sandras asserts that this treatment rarely fails to cure coughs, and all the unpleasant complications attending colds and bronchitis.—*Med. and Surg. Reporter.*

DISEASE OF THE SYMPATHETIC PLEXUSES IN THE INTESTINE.—Dr. Bloschke (*in Virchow's Archiv*, has found in a case of atrophy of the intestine disease of the ganglion cells and fibres both of Auerbach's and Meissner's plexuses. The symptoms he describes were loss of appetite with occasional dirrhœa, continuous vomiting, and pain over the epigastrium. The vomited matters and stools were very fœtid, and there was fœtor of the breath and bleeding from the gums; the patient became comatose and died. The intestine was exceedingly thin, and the villi were diminished and the surface studded with small black points; the ganglion cells, as already mentioned, were in a state of fatty degeneration. Maier found in animals poisoned with lead a condition not unlike the present. He described a sclerotic degeneration of the ganglion cells with development of connective tissue, and appears to have noticed also a kind of fatty degeneration of the ganglion cells. The difference between the condition in lead poisoning and the one observed by the author consisted in the absence of any increased connective tissue around the ganglion cells. The anæmia, weakness, and death appeared to be due to a complete failure of absorptive power in the intestine, so that absorption was performed only by the stomach.—*The Practitioner.*

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TYNDALL ON EVOLUTION.—Prof. Tyndall says on this subject, "If asked whether science has solved, or is in our day likely to solve, the problem of the universe, I must shake my head in doubt. Behind, above, and around us, the real mystery of the universe lies unsolved, and, as far as we are concerned, is incapable of solution. The problem of the connection of the body and the soul is as insoluble in its modern form as it was in the pre-scientific ages. There ought to be a clear distinction made between science in the state of hypothesis and science in the state of fact, and, inasmuch as it is still a science in a hypothetical stage, the ban of exclusion ought to fall upon the theory of evolution."—*Med. Journal.*

DIAGNOSIS OF DISEASE OF THE STOMACH. —Professor Leube (*Deut. Archiv f. klin. Med.*, p. I, vol. xxxiii.) recommends, as a diagnostic measure, that a soft india-rubber tube should be passed into the stomach and its contents examined at various periods of digestion. A meal consisting of soup, a large beef-steak, and a piece of white bread, is completely disgested by a healthy stomach in seven hours, so that if it was washed out at the end of this time the fluid comes back clear, or mixed only with a few flakes of mucus. Leube recommends that this should be done at the commencement of the treatment in every case of gastric disease, with the exception of those where the disease is likely to terminate of itself in a few days, or where there is a tendency to bleeding, as in gastric ulcer or pernicious anæmia. He regulates the treatment by the result he obtains. If the fluid returns clear it is evident that the stomach digests in the normal time, and if dyspeptic symptoms are present it is probably gastralgia, or nervous dyspepsia, perhaps even ulcerated. In order to ascertain the power of the stomach to secrete gastric juice he washes it out with warm water until the water returns neutral, then pours in fifty centimetres of thirty per cent. soda solution, and leaves it twelve minutes in the stomach. He then introduces 500 centimetres of lukewarm water, and tests the fluid which returns. If the stomach is normal the gastric juice should neutralise the soda, and if the fluid returns strongly alkaline the secretion of gastric juice is deficient. The healthy stomach is also stimulated by thermal irritation, and Professor Leube uses this method by injecting 100 centimetres of ice-water into the empty stomach, and washing it out with 300 centimetres more water after ten minutes. Generally, though not always, the water thus obtained from a healthy stomach contains both acid and pepsine. In chronic dyspepsia the water remains neutral, and has no digestive action. In cases of purely nervous dyspepsia the result is the same as in healthy stomachs. A very remarkable result was observed in a case of uræmia, in which, notwithstanding great disturbance of digestion, the functions of the stomach were readily and perfectly performed, and not only was the meal completely digested in the normal time, but the secretion of gastric juice was exceedingly rapid. It is therefore probable that the gastric disorder in uræmic conditions is due chiefly to nervous disturbance. In cases of severe dyspepsia not of a nervous nature the digestion of a meal is almost always delayed, and the fluid removed after the injection of soda or ice-water is almost without exception free from acid and pepsine. The author directs attention to a peculiar form of dyspepsia due to malaria, and which is cured quickly and permanently by quinine. In one case the disease was treated for months with all kinds of diet and mineral waters in vain, until a tertian type became evident in the dyspepsia, and quinine quickly cured it. It another case, a patient who had suffered from ague had loss of appetite and sickness in the morning. In the evening it was better, and the patient could take the most indigestible food without difficulty; 7½ grain doses of quinine cured all these symptoms in four or five days.—*The Practitioner.*

The Uses of Peroxide of Hydrogen.

— By C. E. Sheely, M.B. (Cantab.), in *The Practitioner.*

Peroxide of hydrogen (H_2O_2) is one of those remedies which having as it were, lain dormant long after its introduction to the notice of the profession, seems now to have awakened to active therapeutic life mainly on account of its antiseptic properties. It has been known and used as a bleaching agent for the hair, changing dark hair to lighter shades, in virtue of its destructive action upon organic coloring matter. Recent investigations, as those carried out by M. Miguel, of the Observatoire de Montsouris, appear to establish its claim as one of the most potent destroyers of bacterial life. By American dentists it is largely used as the basis of a mouth-wash, and its use has lately been re-advocated in that country (see the *N. Y. Med. Rec.*, of Jan. 19,) for the treatment of venereal diseases, and as a delicate test for pus. Its action upon pus is rather remarkable. If a few drops of the ordinary 10 per cent. solution be brought into contact with pus, a brisk effervesence at once commences, and continues until all the pus is completely destroyed. This action is well shown by applying a little of the solution to the surface of a sloughing ulcer; not only is the pus destroyed, but the surface of the wound is directly stimulated, and the healthy repair is permitted by the marked antiseptic properties of the fluid. These favorable effects are especially noticeable in syphilitic ulcers of all kinds, and the remedy possesses the great advantage of being painless in its application.

The effervescent action with pus has been utilized for the detection of the latter in the urine, etc. It is a very delicate test, and one which may, I believe, be relied on if the presence of blood can be excluded. If blood is present in any appreciable amount, a similar effervesence takes place, and continues until the coloring matter and corpuscles are bleached and destroyed. But this action does not prevent the aqueous solution giving the blue tint with blood and guiacum like the so-called "ozonic ether," it is moreover less expensive and more manageable than the latter. Its chief therapeutic value thus lies in its cleansing, antiseptic, and withal painless action upon foul and pus-secreting surfaces. Applied on absorbent wool as a swab or temporary dressing to venereal sores, foul or sluggish wounds, or purulent eczematous surfaces: used as an injection for abscess cavities, purulent ophthalmia, otorrhœa, gonorrhœa and leucorrhœa; used as a mouth wash or gargle in cases of dental abscess or caries, and simple stomatitis, or applied directly to ulcerated surfaces on the tonsils or pharynx, and as a douche or injection in ozæna (the crusts having been first removed), it has yielded most satisfactory results. Not only is it painless in itself, but I have noticed cases of painful and irritable ulcer in which during its application the pain notably abated. This result may possibly be attributed to the local anæsthetic action of the gas evolved during effervesence, for when the fluid acts on pus, carbon dioxide appears to be set free.

Many other openings for its use will suggest themselves. Thus it may be hopefully tried as a lotion for washing out the bladder and the stomach in certain cases, and as a topical application in membranous diphtheria. Mixed with glycerine, and applied on a tampon of absorbent wool to the ulcerated cervix uteri, it yields satisfactory results. On removing the tampon a few hours afterward, the ulcerated surface is found quite clean and free from discharge, and already wearing a more healthy appearance.

There is always some danger of overpraising a remedy which has proved recently and generally successful, with the result of thereby ultimately bringing upon it unmerited reproach. Such a danger I desire to avoid; and without incurring it, I may be allowed to recommend, to practitioners the use of a therapeutic agent which from my own experience I know possesses powerful antiseptic properties, and, moreover, is colorless, odorless, cleansing and stimulating, does not stain or corrode, destroys pus, causes no pain in its application, and is not poisonous.

PTOMAINES AND PUTREFACTION-ALKALOIDS.—J. Guareschi and A. Mosso (*Jour. of Chem. Soc.*, 1883, p. 1157, from *Jour. de Pract. Chem.*, second series, xxvii., p. 425) state that they took the enormous quantity of 140 kilogrammes or nearly three cwt. of washed fibrin from ox-blood, and allowed it to stand in a vessel for five months, at the end of which time the fibrin had been converted into a thick, dark-red, homogenous liquid. This was acidulated with sulphuric acid, evaporated at 60°C. (140°F.) to a thick paste; baryta water was added to alkaline reaction; it was filtered after 24 hours, and the filtrate and wash waters shaken for a long time with chloroform. The extraction with this solvent was repeated twelve times, all the extracts containing the same ptomaine. The chloroform extract was evaporated, and the resulting dark golden-yellow oily residue mixed with tartaric acid; a resin that then separated was removed by shaking with ether, and the now colorless (*sic*) liquid mixed with an excess of 50 per cent. potash, and the oil liberated after this drastic treatment was extracted by ether. On evaporating the etheral solution, a strongly alkaline *brown* oil, obtained from the above *colorless* solution, of a faint pyridine or conine-like odor, was obtained, which yielded a hydrochloride in deliquescent colorless crystaline plates. Its platinum salt had the composition $C_{10}H_{15}N.H_2PtCl_6$. The hydrochloride acted as the salt of an alkaloid, and acted physiologically like curare, though less powerfully.

In the same journal (p. 1159, from *Berl. Ber. der Chemie*, xvi., p. 1405) L. Brieger is stated to have given further details respecting the hydrochloride of an alkaloid, $C_5H_{14}N_2.H_2Cl_2$, and another poisonous base, $C_5H_{11}N_1$, both formed by the putrefaction of flesh.

Mr. Velez, also, in the same periodical (*Jour. of Chem. Soc.*, 1883, p. 1157) gives an interesting *resumé* of A. Poehl's researches (*Berl. Ber. der Chemie*, Band xvi., p. 1975) on putrefaction alkaloids in their relations to ergotism epidemics, a paper which we give almost in its entirety.

Epidemics caused by unsound bread have been observed to be preceded by long-continued rains and floods, which cause an abundance of ergot in the following harvest; and these epidemics take two forms, *ergotismus convulsivus*, more common in France and Switzerland, and *ergotismus gangrænosus*, which has prevailed in Russia, Germany, and Sweden. In Russia there were outbreaks of the latter in the years 1832 and 1837, and of the former in 1824. in 1881 Russia was threatened with another outbreak of ergotism, and a commission was appointed to investigate the subject; and of this commission Poehl was a member.

Eichwald has shown (1) that the appearance of the epidemic stands in no direct relation to the proportion of blight in the grain; (2) that animals can not be so inoculated as to produce in them symptoms of ergotism; (3) that the putrefaction of the grain is a necessary condition of the ergotism; (4) that the toxic results are produced only in certain stages of the decomposition; (5) that the various forms of ergotism can not be explained by the quantity of ergot introduced into the system, or its time of action.

Poehl elucidates the following conditions of the putrefaction alkaloids in blighted rye-meal: (1) the conversion of the starch into glucose; (2) fermentation of the glucose with formation of lactic acid; (3) peptonisation of the albumins by the peptic action of the mycelium of *claviceps purpurea*; (4) conversion of the peptone into ptomopeptone, and its decomposition, with formation of putrefaction alkaloids.

1. In the year 1873, Pœhl recognized that the action of damp on the meal produced a large proportion of glucose, by the action of a ferment contained in the endocarp and perisperm of the grain. Hammarsten has also proved that the starches of maize, rye, and oats are more easily converted into glucose by diastatic action than the starches of potatoes, peas, and wheat. Bell, too, has recently shown (*Proc. Royal Soc.*, vol. xxxv., p. 161) that the albuminoids of rye have a greater diastatic action on starch than those of other cereals. It may be mentioned, in this connection, that in the epidemic caused by maize a form of mildew appears in this grain, and has the power of peptonising albumins, with the formation of putrefaction-alkaloids.

2. In presence of a ferment, the glucose would further decompose into butyric and lactic acids. Pœhl further observed that rye-grain, even if not attacked by the claviceps, when merely exposed to damp, evolved trimethylamine when heated with alkalies; and it is well known that albumins, at the moment of putrefaction, evolve ammonia or amines under the action of alkalies.

3. One of the most important phenomena of the change of the albumin of meal is the formation of peptones; it has also been noticed that lactic acid is a better test of peptonisation than any other acid, as phosphoric, acetic, oxalic, or tartaric. Pœhl has frequently observed the formation of peptone from the albumin of meal, caused by the action of *penicillium glaucum* and the fungus of *claviceps purpurea*, the latter of which produces the most marked effects.

4. Tainted rye-meal, when exposed to a damp atmosphere, entered more readily into decomposition with the formation of putrefaction-alkaloids, than did the untainted meal. Large quantities of tainted and of untainted rye meal were allowed to rot, and the putrefying masses were examined for alkaloids by the Stas-Otto process. From alkaline and from etheral extracts of the masses, substances were obtained which gave the general reactions of alkaloids, and differed from one another towards precipitants and color-reagents, according as they had been obtained at various stages of the decomposition. By shaking the alkali solution, with chloroform, benzine and amyl-alcohol, an alkaloid was obtained which gave the general alkaloid reactions, and a beautiful violet colorisation with sulpho-molybdic acid (Fryhde's reagent), resembling that produced with morphia, but the absorption spectra of the two alkaloids differed most markedly.

Starting from the view that peptones, on further putrefaction, are converted into ptomopeptones, which yield nitrogen when heated with sodium hypobromite, then the quantity of nitrogen so evolved may be taken as a measure of this conversion. From the results Poehl obtained in comparative experiments made with damp rye-meal, and meal mixed with peptic ferment, with five per cent. of ergot, and with blight respectively, he deduces the following conclusions:

1. Ergot and mould have a peptonizing action on the albumins and favor their decomposition.

2. The degree of putrefaction of the

albumins is directly proportional to their peptonization.

3. In the first stages of putrefaction the decomposition of the albumins is greater in ergot meal than in mouldy or pure meal; but in the more advanced stages these differences are not so marked.—*London Medical Record.*

TURPENTINE AS A PROPHYLACTIC IN INFECTIOUS DISEASES.—The *Med. Record* tells us that H. Vilandt writes in the *Ugeskrift for Laeger*, vol. viii., No. 8, 1883, concerning the value of the oil of turpentine in the treatment and prophylaxis of diphtheria and the exanthematous diseases. He states that he has never seen any of these diseases spread from a sick child to other members of the family when this treatment was employed. In many of his cases no isolation could be attempted, as the mother was the only female in the family, and was obliged to take care of both the sick and the well, continually passing back and forth from one to the other. His method was to pour from twenty to forty drops of a mixture of equal parts of turpentine and carbolic acid into a kettle of water, which was kept simmering over a slow fire, so that the air of the sick room was kept constantly impregnated with the odor of these two substances. He claims also that by this means a favorable influence is exerted upon the exudation in diphtheria, although it is by no means curative of the disease, and should never be relied on to the exclusion of other remedies.—*Med. and Surg. Reporter.*

SURGERY.

VARIETIES AND TREATMENT OF WHITLOW.—Whitlow appears to be most common between the ages of twenty and thirty-five. It occurs quite as frequently in females as in males, especially in the slighter forms, and in the former seems often to be connected with menstrual derangement. Usually the disease is traumatic, and in most cases the direct excitement is the absorption into the cellular tissue of some irritating material. The term whitlow includes those poisoned wounds of the fingers which are so frequently seen in butchers and poulterers, and which appear to be due to the direct action of a cadaveric poison, similar in its effects, though much more limited, to those produced by the inoculation of the intense virus generated in the dead human body.

The simplest of all the varieties is that in which the inflammation is entirely superficial, and is situated at the root or side of the nail—the paronychia ungualis of Abernethy. This, though a trivial affection, is, like all the others, a very painful one, on account of the tense and firm nature of the cutaneous structure of the fingers. It is, in reality, a skin disease, and arises most often from inflammation of an excoriation, followed by a collection of purulent serum between the cuticle and true skin. At times it is very obstinate and recurrent, arising without known cause, and requiring prolonged constitutional treatment for its cure.

The most common variety is the paronychia cellulosa, which prevails chiefly in the autumn, occasionally epidemically, and which has distinct erysipelatous characters. It may be divided into the circumscribed and the diffuse forms.

In the *circumscribed cellular* a mere abscess forms, usually on the palmar surface of the distal phalanx. The formation of pus is very rapid, usually within twenty-four to forty-eight hours. It commences and is limited to the pulp of the finger, which is composed of dense cellular fibrous tissue. In such cases there is little or no tendency for the inflammation to spread to the contiguous textures, the skin is but little inflamed, and fluctuation is soon detected. The throbbing pain is its only inconvenience, and relief is afforded at once by a small incision.

The *diffuse cellulitis*, or parapharangeal cellulitis, is a much more serious disease, particularly when situated on the thumb or little finger, on account of their synovial sheath being continuous with the common flexor sac. Not only are all the tissues of the finger or fingers liable to be attacked—even to the bones, but in all cases abscesses form beneath the palmar facia or at the back of the hand. The sloughing which is likely to occur, even when the suppuration is rigorously followed up by the knife, suggests a similarity to a parallel disease, carbuncle.

Although this cellulitis originates in a single finger, I have seen a case in which, from neglect, all the fingers were involved in the process.

In this variety the lymphatics are liable to be involved, and the supra-condyloid and axillary glands affected, although usually even in the severest cases the disease is limited to the hand. In one recorded case the pain was so severe that the patient—a blacksmith of Herculean frame—is said to have succumbed to it alone.

Thecal abscess or tendinous paronychia is found in all cases where the tendinous sheath is the starting point of the inflammation set up by a small penetrating wound. The synovial surface of the sheath inflames and the tendon is in great danger of necrosis by being separated from its vascular supply by the formation of pus. Sometimes the symptoms supervene at once after the injury, sometimes not for days. The quantity of matter that gives rise to the extreme pain and to the acute constitutional symptoms may be quite minute. In this form the œdema and superficial fluctuation of the cellulitis are absent. There is but little swelling, and the extreme tenderness and throbbing alone demonstrate the formation of pus. When neglected, sloughing of the tendon and its sheath are sure to result, and at times the inflammation spreads to the great carpal bursa, and along the great flexor tendons to the whole forearm. I have seen but one such case, which terminated in necrosis of the bones of the wrist, and left the hand quite useless.

This tendinous whitlow is often complicated with cellular and periosteal inflammation, forming a true dactylitis.

When the periosteum is first affected, there is extreme tenderness on lateral pressure of the phalanx, but no marked swelling or redness, nor very intense pain at first. It often depends on the syphilitic or rheumatic diathesis, and may occasionally be resolved by leeching and internal remedies, without even puncturing with a tenotome, if seen early. The bones are not so liable to necrose as when the inflammation extends from the adjoining tissues.

The only other subdivision of whitlow is that due to a venereal poison, and which may or may not be syphilitic. It differs altogether from the dactylitis which occurs in the later stages of constitutional syphilis. I have seen but one example of the venereal paronychia. The case, though tedious in healing, got quite well. There was no systemic infection. A precisely similar case to this has been described by Pearson.

When a whitlow attacks the dorsal surface of a finger, the joints are very liable to be affected, as the extensor alone forms the posterior ligament of the joint.

The treatment of the superficial form of whitlow consists simply in improving the general health, and, locally, if the pain be very severe, in puncturing the bulla with a tenotome.

In the initial stage of the severer forms, it may be possible, if seen very early, to abate the inflammation by leeches, iodine paint, pencilling with nitrate of silver, or the application of opium and belladonna dressing. Usually, the tendency of the disease in all its forms is to suppuration.

Internal remedies have little or no effect on this local disease.

The indispensable method of treatment is incision. On this point, most surgeons are agreed. But there is not the same agreement as to the time when incisions ought to be made. In the circumscribed form, it is often of advantage to wait, as the late incision heals much sooner than the early. But in the diffuse cellulitis, the earlier an opening is made the better.

The situation, direction, and extent of the incision are more debatable points. The puncture between the joints is the plan least likely to damage the future utility of the hand. An excellent instrument for such opening is the triangular cataract knife of Beer. This treatment is not applicable to all cases, and is most serviceable in the circumscribed variety, and when a tendinous sheath requires opening, especially in the early stage. Lateral incisions give a free vent to the pus of the spreading form. In bad and neglected cases, where the inflammation has been unchecked, laying open the whole of the palmar aspect of the finger in the midline is sometimes the only method of saving it. The motion of the joint returns even after this heroic treatment, slowly but surely. Uncomplicated periostitis is best treated here, as in other situations, by the lateral subcutaneous puncture.

The treatment I always adopt after incisions is, first, rest on a splint, and second, the applicalion of strong opium dressings. Large poultices enveloping the hand and arm are said to be beneficial. The application of an extension apparatus to a partially disorganized joint will sometimes prevent anchilosis. The test for after-amputation is the state of the bones; should they remain sound, time and rest with extension often effect a cure in the worst cases.

There is one other method of treatment,

recommended by so high an authority as Sir W. Ferguson, but which is not usually known, viz., leaving the finger to take its chance, a truly expectant plan. In the only case where I have known this treatment to be adopted, the finger had ultimately to be removed.

In the discussion which ensued, Dr. Brett remarked that the internal administration of sulphide of calcium was often efficacious in arresting the swelling.

Dr. Allen said that in paronychia ungualis it was wise to avoid incisions as long as possible, and, above all, to forbid all hot moist dressings, which encouraged suppuration, rendered the tissues sodden, and checked the tendency to heal. The best local application was a good pencilling of the surface with nitrate of silver. As to the constitutional treatment, it resolved itself into unlimited fresh air and a free administration of alcohol.

Dr. James thought that in local inflammation, free incision between the joints were quite sufficient; he had never found it necessary to open the palm, and regarded interference with the palm as equally dangerous with complete abstention.—R. A. Stirling, *Australasian Med. Journal.*

SURGICAL USES OF COLLODION. — Mr. Sampson Gamgee writes, in *Birmingham Med. Review:* Collodion is one of those therapeutic agents whose value to the surgeon is admitted, without being adequately appreciated or utilized. Composed of ether, gun-cotton and spirit, collodion is a powerful antiputrescent, and, by ready evaporation and contraction, it exercises the dual antiphlogistic power of refrigeration and compression. In acute orchitis I know of no plan of treatment so simple, rapid and satisfactory as coating the cord and scrotum with layers of collodion, by the aid of a camel-hair brush, previously dipped into it. The sensation is momentarily sharp, the shrinkage rapid, and so is the subsidence of the inflammatory process — facts pointed out some thirty years ago, by Bonnafant, but much doubted, and almost forgotten. To swollen parts which can not be well bandaged, collodion is especially applicable for the compression attending its contraction. I was recently consulted in the case of a good looking boy, considerably disfigured by a red and swollen nose, which became very pale and visibly contracted just after I painted it with successive layers of collodion. I repeated the application three times in the succeeding fortnight, with the effect of reducing the organ to its natural size and color. When the nasal bones are fractured, a very effective mold for keeping them immovable, after adjusting them with the fingers, may be thus made. Place over the nose a thin layer of absorbent cotton, soaked in collodion. As it dries, another layer of cotton, and more collodion, taking care that the application extends sufficiently on each side to give buttress-like support. The patient compares the feeling to the application of a firm bandage to the nose, and the bones consolidate effectively under the shield, which may be renewed as it cracks and peels off.

Other cuts than recent ones do well under collodion. A horse-breaker sought my advice for a grazed wound inflicted by a carriage step on the front of his right shin, ten days previously. He had applied water dressing continuously. The surface of the wound had suppurated, and the edges for some distance around were red and tender. I raised the foot, to empty the limb of blood, dried the surface of the sore with absorbent tissue, then brushed it over with collodion and applied a smoothly compressing bandage over one of my pads. The part was easy at once, and after two more dressings, at intervals of four days, cicatrization was perfect, the patient having continued his business of riding and driving without losing an hour. — *The Practitioner.*

MISCELLANY.

CAUSES OF ERROR IN THE INVESTIGATION OF CASES OF CRIMINAL ASSAULT.—In a long paper read before the *Société de Méd. Légale*, and published in the *Annales d'Hygiène, Pub. et de Méd. Legale*, Nos. 7 and 8, 1883, M. Brouardel deals exhaustively with a variety of points connected with this difficult subject. The following is a brief outline of the questions touched upon.

Suppose, in the first place, that a mother discovers what she considers to be suspicious signs in her child, she questions and suggests until the outline of a story is furnished to the child, who then readily fills it in, and thus an air of probability is given to the whole. The child now finds herself a subject of interest and compassion, and, with the love of notoriety so dear to childhood, she sticks to her story at all risks, The two prime causes of error on the part of the doctor are, first, the anxious state of the mother, who is convinced that her child has been assaulted; and second, the falsehoods of the child herself, who has forged a story of which the main points have been suggested to her. In such cases a medical man ought to use his eyes and not his ears, and he ought to be very careful to state in his certificate only what he has himself seen.

Examination of the Hymen.—In considering this part of his subject, M. Brouardel has in view more particularly children under ten years of age—the period during which the difficulties are greatest. In the first place, a medical man ought only to certify as to the state of the hymen when he possesses real experience *de visu*. In illustration of this, a case is related in which a young French practitioner certified that the hymen of a child had completely disappeared, whereas, on a second examination in conjunction with M. Brouardel, the membrane was found to be intact. The practitioner's excuse to the judge was that if he sought information on young girls he would himself be committing an illegal offence. From this M. Brouardel draws the wise conclusion, "Never certify to anything about which you are not sure." The hymen varies in position according to the age and *embonpoint* of the child. In well-nourished children under two or three years old the hymen is deeply placed, owing to the deposit of fat in the labia majora, which sometimes forms a layer several centimètres in thickness. In such cases, considerable perseverance and gentleness in the examination are necessary for the hymen to be seen at all; and these are the cases in which medical men sometimes certify that the hymen has disappeared. On the other hand, in thin ill-nourished children, the labia majora hardly exist, and the hymen is easily seen at a depth of hardly a centimètre from the surface. The form of the hymen is very variable at different ages. In newly-born infants it is nearly always labial in form; but there are numerous variations. For example, there may be two or more folds in the segments of the membrane, in which case the orifice is of course proportionally dilatable, and in such cases absence of rupture, in girls from twelve to fifteen years old, would not prove that coitus had not been completed. Such natural reduplications or folds in the hymen are often mistaken for old tears. The hymen appears only to become crescentic at five or six years of age, and this appearance is probably due simply to a further development of the preceding (labial) form. When it is well-marked and the orifice is narrow, there can be no mistake; but sometimes the branches of the crescent undergo partial arrest of development, giving rise to a notched appearance of the margin. The integrity of the free border, on careful examination, shows to the experienced eye the distinction between such natural notches and the effects of injury to the hymen. In a third form of hymen there are two symmetrical orifices, one on each side of a median bridle, which stretches across from the anterior to the posterior wall of the vagina. Most frequently the middle of the bridle is found to have disappeared, and only one or two projections or '*languettes*' remain, separated from the rest of the hymen by two deep notches. Two other causes of error are also mentioned. In one case a chancre had eroded the edges of a torn hymen, which afterward partially united, leaving two openings. In another case, a medical man found a hymen torn four days after violation. A second medical man, who saw the patient eleven days later, said the hymen was entire; the reason being that the two edges of the wound had united by that time, and the cicatrix, being then red, had escaped notice; for at another examination by both medical men together, thirty-five days after violation, the cicatrix had become white and clearly distinguishable. In examining the hymen it must be remembered that, if the thighs be widely separated, the membrane is put on the stretch. It is sometimes necessary to make the child cough or bear down in order to obtain a satisfactory view of the parts, and the utmost gentleness must always be used. To make sure that the hymen is intact, the finger or a blunt probe should be passed behind it to smooth out the margin. It is only in this way that the difference between natural folds and cicatrices can be properly made out.

Vulvitis. — Inflammation of the vulva may be spontaneous, traumatic or gonorrhœal. There are no absolutely certain means of diagnosing one from another. Urethritis, especially if of long duration, is a valuable indication, but it is not conclusive, for Caspar and Liman, as well as the author, have seen vulvitis follow injury. In such cases, however, the urethritis will generally have subsided by the time the more acute stage of a spontaneous or traumatic vulvitis has been reached. Gonorrhœal urethritis, as a rule, lasts much longer. The most valuable signs are the course and duration of the vulvitis. The traumatic variety reaches its maximum of intensity in from thirteen to fifteen days, and disappears in a fortnight or three weeks in healthy children. In M. Bouardel's opinion, gonorrhœal vulvitis lasts much longer, especially in neglected children. Spontaneous vulvitis is very common in children of lymphatic temperament, particularly during teething, and at the beginning of menstruation. It may be acute or chronic, and is contagious and epidemic, especially in hospitals. Swelling of the inguinal and vulvo-vaginal glands is most frequent with gonorrhœal vulvitis, but may occur in other forms. When consulted in medico-legal cases of this kind, medical men are generally in too great a hurry to give a decided opinion, from fear of being thought ignorant and inexperienced. A decided opinion should never be given from a single examination. In most cases the diagnosis can only be made after several visits, and by following carefully the course of the malady; *e.g.* severe bruising of the parts may only appear several days after the violence which gave rise to it, and the first examination may have been made too early for the appearance of ecchymoses, of gonorrhœa, or of venereal sores.

In illustration of the occasional grave complications of gonorrhœa in girls, a fatal case (in a patient aged 15) is related, in which embolism of the pulmonary artery followed thrombosis of the left iliac vein in connection with purulent vaginitis and metritis.

Ulcers of the Vulva.—These may be, 1, indurated primary sores; 2, soft sores; 3, mucous patches; 4, herpetic; 5, superficial ulceration from intense spontaneous, traumatic or gonorrhœal vulvitis. In considering these various lesions, M. Bouardel quotes largely from Fournier's lectures on *Syphilis chez la Femme*, especially in regard to the occasional difficulty in diagnosis between herpes and chancres. He also quotes from Parrot's lectures respecting aphthous vulvitis in children. Several interesting medico-legal cases are related in which the author was associated with M. Fournier, and in which there was great difficulty in the diagnosis. Here again the author cautions the medical man against forming a hasty opinion. A chancre should never be diagnosed from the chancre alone. The great point is to watch and see what follows.—*London. Med Record.*

SELLING HIS PRACTICE.—A physician sold his practice, and agreed not to practice "in that city or its vicinity." He broke this agreement, and his successor brought suit for an injunction, which was granted to him generally. The case was carried to the Supreme Court of Michigan, where the degree was confirmed. The Court defined the term "city or its vicinty" to include the territory surrounding the city for the distance of ten miles from its corporate limits. "The extent of territory, in the matter of doing business, included in the term 'vicinity of the city,' must necessarily depend in a great measure upon the size of the city, its location, and particular surroundings."

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Bibliography.

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1 By Benjamin Ward Richardson, M.D., LL.D., F.R.S., Fellow of the Royal College of Physicians, etc Philadelphia: Henry C. Lea's Son & Co. For sale by Robert Clarke & Co. Price, $4.00.

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OPERA MINORA. A Collection of Essays, Articles, Lectures and Addresses. From 1866 to 1882 inclusive. (⁴)

To a large number of physicians the writings of Dr. Seguin are familiar. In his contributions to the literature of the profession will be found the result of the labors of the conscientious investigator and observer in this special field of diseases of the mind and nervous system. In common with those who are especially interested in this branch of medicine, we are very glad to see that Dr. Seguin has been induced to gather together his various contributions and have them published in convenient book form. In this way they are rendered doubly valuable for reference purposes.

The publishers have issued the volume in very handsome style.

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2 By Sydney Ringer, M.D., Professor of the Principles and Practice of Medicine in University College, London. Tenth edition. New York: Wm. Wood & Co. For sale by Robert Clarke & Co.

3 By R. A. Witthaus, A.M., M.D., Professor of Chemistry and Toxicology in the University of Buffalo, etc. New York: Wm. Wood & Co.

4 By Edward C. Seguin, M.D., Clinical Professor of Diseases of the Mind and Nervous System in the College of Physicians and Surgeons, New York, etc. New York: G. P. Putnam's Sons. 1884. For sale by Robert Clarke & Co. Price, $5.00

Original Articles.

THE USE OF JEQUIRITY IN DISEASES OF THE EYE.

A Paper read before the Academy of Medicine, March 31, 1884,

By C. W. Tangeman, M.D.,
Assistant to the Chair of Ophthalmology at the Medical College of Ohio.

For some time past medical journals have been overwhelmed with reports of cases treated by this drug. It was first brought to the notice of the profession by deWecker of Paris. The plant is a woody twiner of a rather bushy growth indigenous to India, South America and tropical Africa. It is generally known as Abrus Precatorius; it has been given the name of jequirity by the natives of Brazil, which is nearly always used for brevity sake. The seeds of this plant is the part used in diseases of the conjunctiva, while the root also claims medicinal virtues. There are two varieties of the seeds, a bright coral red and a pale yellow, they grow in pods like peas, but are a little different in shape. They have been largely used in the manufacture of ornaments in Europe on account of the hardness of their shell or hull, their pretty oval shape and their bright colors. The reason I say de Wecker only called attention to this drug is because it has been employed by the inhabitants of Brazil and India, especially in the former country, where, in certain provinces, granulations rage as an endemic disease nearly all the time. DeCastrœ Silva, in 1867, published a small book on the use of jequirity in which he calls attention to the dangers connected with its use. He himself employed it in the proportion of 1 part in 700 parts of water, and reports a few cases where, after two or three applications, it caused an intense inflammation of the eyelids, face and neck, and sometimes even affecting the submaxillary glands. It is nearly always used in the form of an infusion applied to the conjunctiva by means of a brush or pledget of cotton wrapped on a probe. When applied to the conjunctiva it possesses the peculiar property of exciting an inflammation that seems to be of a specific nature. Sattler, of Erlangen, claims that it is an "infection disease, artificially produced by the infusion, which has well defined stages, etc." The fact that chronic trachoma with its hypertrophic changes can be caused to disappear in a very short time, by exciting a florid inflammation, is not of recent date. We need only to refer to the experiments of Jæger about seventy years ago, who, to cure chronic trachoma, inoculated the conjunctiva with blenorrhœal virus, thereby setting up a virulent inflammation. These cases were not unlike those where the inoculation is accidental, it is a dangerous procedure and all who have treated diseases of the eyes have undoubtedly had an opportunity of seeing just such cases. The treatment of trachoma had been so unsatisfactory that this new theory of Jæger found many ready listeners. Peringer carried it out quite extensively. VanRoosbrœck and Warlamont recommended it warmly in Belgium; the results that they achieved were simply astonishing; but, notwithstanding, this plan of treatment, and not without cause either, fell into disuse until at present its applicability is limited. The blenorrhœic inflammation runs such a violent course that many eyes were lost on account of the treatment. Abadré, therefore, suggested to weaken the virus before inoculation,(1) which would necessarily make it safer and at the same time extend its range of application. Theoretically this was a good suggestion, but practically it could not be carried out. Roosbrœck has made a large number of experiments with different agents with the hope of finding some drug that possessed the good qualities of the specific virus and still be absolutely safe to employ in cases where the cornea is intact; but his researches have been fruitless, as have been those of many other experimenters.

In jequirty we have a remedy that apparently gives promise of possessing the desired qualities, it seems to act on the same principle as the specific virus by exciting an acute inflammation of a purulent nature, virulent enough to cause a disappearance of the trachomatous bodies, and at the same time its use does not endanger the eye, even in cases where the cornea is perfectly clear. This was a valuable discovery, and it is, therefore, not surprising to see the eagerness with which the profession accepted the new drug. There had been no hope entertained by any one that we would be able to find a suitable treatment for this class of cases; old plans of treatment had been again taken up that

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1 Annal de Ocullitique, 87, 1883, p. 229.

were discarded decades ago in the vain hope of finding something that had been overlooked. The reception of jequirity by the medical world is something unprecedented in the history of the introduction of new remedies, all of which proves how thoroughly disgusted both physicians and patients were with the old method of treatment. How long it will hold its own will be difficult to predict; it may be brought into disrepute before even its physiological action is properly understood.

The following is deWecker's formula for preparing the infusion: Take 32 seeds (about 3.25 grammes), bruise them to a fine powder, then add 500 c.c. of distilled water; twenty-four hours later add the same quantity of hot water; after cooling, filter and the infusion is ready for use.

Dr. Maura, of Brazil, has tried a number of preparations of jequirity upon rabbits with a view of ascertaining the strength that is required to produce the greatest amount of reaction. I have gone through with the same experiments, the cotyledons, the embryonic radicle and the skin were used separately in the form of an infusion, which varied in age, the time of maceration ranging from five minutes to thirty-six hours.

The results differed very much. The skin is of no assistance, neither is its prescence objectionable, but it appeared to me that the cotyledon and the embryonic radicle had best not be separated. The infusion, when first prepared, is clear, has a somewhat greenish hue, but after standing thirty-six to forty-eight hours it becomes turbid and has an odor peculiar to itself; even when standing for weeks it does not present the odor of decomposition that is so common in infusions of plants and seeds. In the course of ten to twelve weeks it again clears up, leaving a deposit of a grayish matter at the bottom of the vessel. I prepared the infusion according to the formula given above, and, not understanding the action of the drug, I studied its effect on animals first, to assure myself as to the applicability of so active a remedy to eyes where the cornea was in a perfectly normal condition. My first experiments were made on dog's eyes, the infusion being applied by means of a brush. After the first application, which was made the evening before, the conjunctiva was reddened and congested. On the second day four applications were made, the symptoms being about the same only a little better marked. On the third day the inflammation was at its height. The discharge though copious was not purulent, there were flakes and shreds of tissue but no well organized membrane. The lids were thickened, the conjunctiva chemotic, while the cornea remained clear. The inflammatory conditions entirely disappeared in the course of twelve to fourteen days, despite the continuation of the use of the jequirity. Where a dog was the test animal the cornea never became involved, no matter how concentrated the infusion or how frequently the applications were made. Whenever rabbits were used the cornea not infrequently became necrotic and dropped off, the eye-lashes and hair of the lids came out on account of the participation of the lids in the inflammatory process. It is an established fact that almost any irritant will set up a purulent inflammation in a rabbit's eye when applied to the conjunctiva. These experiments were repeated until I felt pretty well assured that it would be a safe application to make in cases even where the cornea was not involved by the trachomatous process, and from this time on I made my observations in the human subject. I soon came to the conclusion that the infusion could not always be prepared by the rules laid down by DeWecker, nor did the infusion always produce the same effect. The reason why many observers make such unfavorable reports with jequirity possibly is because they simply work according to directions laid down, without making any allowance for peculiarities or contraindications. According to the literature of this subject it was a prerequisite to set up a purulent inflammation in order to cause a disappearance of the trachomatous process. Since its mode of action was known Prof. Seely suggested that purulency is not necessary, it is even an objection; it is only a result of the medication and were it possible to eliminate the inflammatory part of the process the granulations would disappear just as positively and make the remedy all the more desirable. The formation of an artificial membrane likewise only shows us what we have been doing.

Sattler thinks that by "the number of applications the intensity of the reaction may be regulated and maintained at any degree, but it is not proportional with the frequency of treatment." Not unfrequently a single treatment is sufficient to cause a violent ophthalmia, yet this is not the rule, therefore we must not expect it in all cases.

It seems that the condition of the conjunctival membrane should be our guide as to the kind of treatment, since the reaction is more prompt the nearer the conjunctiva approaches the healthy condition. The artificial opthalmia is not entirely without pain, but only the more sensitive patients complain.

Let us briefly run through with tne symptomalogy of a typical case of jequirity ophthalmia. After the first application to the mucous membrane, which is best made by means of a brush, there are no objective symptoms whatever. In the course of four or five hours a slight injection is noticeable on the tarsal conjunctiva, and an increased secretion of tears; still, a few hours later, there is slight œdema of the entire conjunctiva, the watery secretion from the eye is more copious, and is beginning to get a little viscid, and contains small flakes. On the second morning the eyelids are glued together, somewhat swollen and red, and the patient complains that they are hot and painful. If the lids are now forcibly pulled open, there is a gush of hot fluid from the eye, the conjunctiva is more chemotic, and is covered with a greyish membrane, which may extend continuously over the entire conjunctiva. Sensitive patients begin to complain of pain now; there is restlessness, with inability to sleep. It is very seldom that there is any fever present, save a slight elevation of temperature in the evening.

On the third day the lids are often so thick that an eversion is often impossible, and the infusion must be poured into the palpebral fissure. All of the symptoms already mentioned are magnified. The secretion is of a muco-purulent nature.

During the fourth day the discharge is more profuse, the upper lids are so thickened that they overhang the lower lids like little bags; the false membranes covering the mucous membranes is thicker, and can be separated at the edges a little without causing any bleeding; the corona is not affected, pain is a little more severe, and the patient feels best in a dark room. The following day brings with it already an amelioration of all the symptoms, the redness and swelling of the lids pass away. It generally requires six or eight days for the membranes to disappear, It is quite firmly adherent to the cul de sac, where it may be seen longest.

After separation of the membranes, the conjunctiva has a red, velvety appearance, the enlarged prominent papillæ seem flattened, the whole surface becomes smooth and returns to a normal condition again in the course of two or three weeks.

It is quite difficult, with our present knowledge of this drug to state precisely what its action will be in a given case: where course is mild, swelling of the lids and the the purulent discharge are seldom found present, the artificial membrane is thinner, chemosis is not so well marked. Some writers claim it to be impossible to cause more than an active hyperæmia with jequirity. Our aim should be to do as little as possible, instead of making an effort to set up as great a reaction as we can. In rabbits the purulent secretion is not only auto-inoculable, but also hetero-inoculable.

After having studied the picture of a jequirity-ophthalmia, we can readily see that it is entirely different from the inflammation that may be caused by the use of irritants, such as turpentine, croton oil, ammonia, etc. There is always more or less pain accompanying their application, and then the course is also so much different that there can not be any comparision between an inflammation caused by irritants and one caused by jequirity. The latter does not reach its height, nor begin to decline until after the third or fourth day, while the reaction from any of the ordinary irritants begins to disappear in the course of ten or twelve hours.

At this point the question arises, what causes the reaction so plainly seen on the conjunctiva after the use of jequirity, and how does it cure granulations? Jequirity seeds are similar to other leguminous seeds, containing a small amount of albumen, fat, salts, sugar and starch. Rigaud and Dusart succeeded in extracting an alkaloid from the seeds, which they used in the form of a solution to the conjunctiva, but there was not the least reaction. The same negative results were recorded by Sattler, of Erlangen, who used an alkaloidal body prepared for him by Hilger; he came to the conclusion that the jequirity ophthalmia was due to a pathogenetoic micro-organism found only in the infusion of the seeds. In order to prove this assertion, the following problems had to be worked out:

1. The positive existence of a specific

micro-organism in the infusion, artificial membrane, and secretion from the ophthalmia.

2. The inefficiency of the liquid when this organism was not present, or where it was rendered inactive.

3. The cultivation of these microbes to the exclusion of all others, through a number of generations, and then producing the specific inflammation by means of inoculating the conjunctiva with the cultivated products.

I have investigated these problems pretty extensively. In making an infusion according to the formula given, we can recognize organic life long before the infusion is filtered, or even before the warm water has been added. The simplest comparision that I can make, so far as the size, shape and number of the jequirty microbes is concerned, is with the vilebrio of decomposition found in decomposed blood, urine, or an infusion of hayseed. In length they vary a great deal, ranging from 2 to 8 or 9 m.m. In thickness they are about alike. The exact behavior of this organization under the microscope is peculiar, and forms one of its characteristic features, when comparing it with other bacilli. They are rod shaped, very active, often move in chains of twos and fours. Ocasionally a group or little island of them is found quite motionless, when suddenly one of their number shoots rapidly across the field and disappears. Some are performing rotary movements, with the point of rotation at one end, or in the center, then they lie quiet for a while, only to go through the same movements again, or disappear from the field, and others take their place. About 48 hours after the infusion is made, the fully developed bacilli are seen to become distinctly notched or contracted; the larger ones having three or four divisions. After a time they can be seen to tear loose and move off slowly, being endowed with all the characteristic features of the mother bacillus. The age of the microbe seems to be about 48 hours, when it begins to give off spores.

There seems to be a difference of opinion as to how soon, after adding water to the bruised seed, life can be discovered. I have repeatedly detected it in an infusion five minutes old, when hot water was used; but then the microbe had the appearance of a sporule that was just given off. In the course of two or three hours a difference in length was distinctly noticeable. Their growth is very rapid, which is also a distinguishing feature, and conclusive evidence that it is not an organism of decomposition. Vegetable infusions do not develop decomposition bacteria in the course of five minutes. The development of the jequirity microbe depends largely on the temperature of the apartment where maceration is going on. When placed in an ice-chest, there is a total arrest, which can be kept up indefinitely; but this same infusion, placed under proper surroundings, develops the specific bacillus, possessing all the properties of the original infusion. The resistance and tenacity of this micro-organism is wonderful; it retains the property of vegetating when dried for weeks, if carefully moistened again. A temperature of 32° F. does not in the least injure their vitality. To demonstrate the presence of the microbe in the infusion is not difficult; it now remains for us to show its presence in the secretion and artificial membrane.

First—The pus was subjected to an examination under the microscope, and found to contain the characteristic bacilli. While the same micro-parasite was found in the membrane, it was not so active in its movements. The inefficiency of the fluid was tested by boiling an infusion for one-half hour, or adding corrosive sublimate. With the infusion treated in this manner, the action was absolutely lost, and not in a single instance was any reaction noticeable. The claimed cultivation of this microbe through a series of generations, freeing it absolutely from all impurities, and then producing an artificial ophthalmia by inoculating the conjunctiva with the cultured bacillus, would seem to prove that the pathogenetic properties belong to the micro-parasite.

Sattler, of Erlangen, has carried this process of cultivation through a series of forty generations, and inoculated the conjunctiva with the last growth, only to produce the characteristic reaction. The injection sub-conjunctival, or into the lid, causes an abscess; but when the infusion is boiled a certain length of time there is no reaction at all. The question, how does jequirity act? still remains open for us to investigate.

Recent investigations of the trachomatous process, claiming to prove its mycotic nature, while by no means conclusive, have received encouraging support. It is probably a generally accepted fact that bacteria, in the course of time, sterilize their own field—the soil in which they flourished. Hence we might offer as an explanation: Assuming that bacteria are the active principle (possibly a violent assumption) the remedy in question might be said to act antagonistic to the trachoma bacillus, in that it sterilizes the field of its growth.

To the question, Is the remedy one that can be placed in the hands of the general practitioner? we would say not when used as de Wecker recommended it. The first paper that appeared on this subject by de Wecker, of Paris, set up an untenable theory by claiming that a purulent inflammation was always the result of jequirity, and that a purulent condition was absolutely necessary for the cure of granulations. I have treated a large number of cases both in dispensary and private practice, and have yet to see a single case in which jequirity set up a genuine purulent ophthalmia. Hence the purulent state is not necessary; it seems to contain within itself the antidote to trachoma, which, if it could be brought to bear properly on the trachomatous process, might relieve it without even setting up an active inflammation. The degree of inflammation and the rapidity with which granulations disappear, are not proportional at all. The only effect that we may expect from it is that it stimulates the absorbents to more rapidly remove the bodies when they are ready to disappear. I have frequently seen granulations disappear and the lids remain perfectly smooth, without exciting even a subacute inflammation, by an application three or four times daily of an infusion of common garden peas, which seems to act on the same principle. The idea that a great degree of inflammation is required is a mistaken one.

It has been claimed that in acute trachoma jequirity is contra-indicated. This statement certainly admits of exceptions, as the following case goes to show: Bessie F., æt. nine, well nourished, etc., made application at the clinic for the relief of sore eyes. Examination showed the presence of an acute trachomatous process. The lids of both eyes were thickened, the ocular conjunctiva was congested, lachrymation and pain were prominent symptoms. The entire picture was one of an aggravated case of so-called acute trachoma. Here, now, was a severe and acute case, which might act as a test for the efficiency of the drug.

December 28th, an application of a strong infusion was made to the conjuctiva of both eyes by means of a pledget of cotton wrapped on a probe. The following morning the patient returned; the eyelids were slightly œdematous and of a dusky red color; the conjunctiva was thickened, until it looked like a velvety mass. The cornea did not participate in the inflammation, but remained perfectly clear; there was no photophobia, but a slight discharge annoyed the patient, which was of a thin, watery character, with some small flakes in it. The palpebral conjunctiva was covered with a membrane of a croupous nature, but it was so loose that it could easily be brushed away. No further treatment was instituted, the artificial inflammation being permitted to run its course; the patient was kept under observation. The catarrhal portion of the chain of symptoms disappeared in two days, and in the course of twelve to fifteen days scarcely a trace of inflammation could be noticed. At first there was a great thickening, but it did not have a tendency to hide the granulations, as has been maintained by some very prominent authorities. On the contrary, they were as prominent as ever, and when the swelling began to subside the trachomatous process gradually dwindled away, and by the time that the inflammatory symptoms had left entirely, the lids were smooth, and have remained so up to the time of writing.

In cases where there is no apparent reaction from this infusion, I do not hesitate to say if the applications are continued for some time they will cause a disappearance of pannus, and relieve the reddened and irritated appearance of old chronic cases; even the infusion of peas has this effect, though its action is much milder. The use of this remedy, and the method of its application in different cases, requires careful observation to obtain good results; and the sooner we disabuse our minds of the theory that it is necessary to set up a purulent inflammation, or even a violent reaction, to cure granulations, the sooner we will be able to treat this class of cases more successfully.

My observations with this remedy, made at Prof. Seely's Clinic, sum up as follows:

1. Generally speaking, and judging from the results usually obtained in the treatment of trachoma, my results were remarkably good and satisfactory.

2. The strength of the infusion influences the amount of the reaction.

3. An artificial inflammation can be set up any number of times by the use of the infusion, which speaks against its being an infectious disease.

4. It acts on mucous membranes other than the conjunctiva.

5. It does not seem to be necessary to produce a purulent ophthalmia to bring about disappearance of the trachomatous process.

6. An involvment of the cornea can always be prevented by a suspension of the applications and the use of a sublimate solution, one part in 8,000, two to three times a day.

7. The reaction is much more marked if a slight amount of irritation is made with a brush while applying it to the lids, so as to cause an abrasion of the epithelium.

8. I have found that an infusion of common peas, made in the same manner as the jequirity infusion, possesses similar physical qualities, and clinically, while its action is milder, it is yet preferable in some cases.

DISCUSSION.

Dr. Seely remarked that trachoma has been the "opprobrium ophthalmicum" of all time. All remedies have proved unsatisfactory to a great extent. The world-wide interest manifested in jequirity demonstrates the necessity for a new remedy. Reviewing the reports we find that a great difference of opinion exists as to its efficacy. Some claim that they are unable to obtain any results from its use, and to others it is only of theoretical interest, while several announce remarkable results, especially in pannus. Jequirity has been employed also in vascular and phlyctenular varieties of keratitis. The speaker has used the preparation in one most obstinate case of scleritis, with the happiest result. In speaker's experience, where trachoma has disappeared, but is followed by a constant recurrence of inflammation, this remedy has acted best, and perhaps better than other kinds of treatment. There is great difference of opinion as to its mode of action. Some claim that the inflammation is not due to parasites, but probably to a vegetable ferment. One author claims that he has discovered in it a soluble ferment of the class to which myosin, pepsin, etc., belong. Klein, of London, says he has made infusions, and that no parasitic growths have been produced upon the culture soil, and yet, they have produced true jequirity inflammations in the conjunctiva.

A few state that it is impossible to inoculate one conjunctiva from another, but this is disproved by other observers. Some individuals have found that its use is attended with danger to the cornea, but this may be attributed to some fault in the preparation of the remedy. Speaker thinks that the essayist may be correct in regard to the theory of action. Does not regard purulency as a necessary condition in the treatment, since this is disproved by experience. Infusion of dried peas acts in a similar manner. While with other remedies one to ten years are demanded to effect a cure, jequirty may be followed by success in four to six weeks.

One individual obtains satisfactory results with nitrate of silver, another with sulphate of copper, or lead, and the latter can not see why the former makes use of nitrate of silver, since it has no influence upon trachoma *per se*. Leber, of Gottingen, has given the only satisfactory explanation of the action of caustics and astringents. Their basis of action consists in their parasiticidal properties. If this is true, we would certainly not depend upon caustics and astringents, since we have a more effective parisiticide in the different preparations of mercury — such, in particular, as the bichloride, the yellow oxide and vaseline, etc.

Hot Milk as a Restorative.—In the *Medical Times and Gazette* a note appears on the use of hot milk as a restorative. When heated above 100° F., milk loses its sweetness and density, but has a most cordial influence over mind and body when exhausted by labor or mental strain. Its effects are more satisfying and more enduring than those of alcoholic stimulants.

Lemonade for Diarrhœa.—Dr. Vigouroux recommends a glass of *hot* lemonade every hour, or half-hour, as an easy, agreeable, and efficient treatment for diarrhœa.

Prof. Parvin teaches that the best mode of giving opium to prevent abortion is laudanum gtt. xx–xxx, per rectum.

PUERPERAL CONVULSIONS, WITH ALBUMINURIA.

By J. Taylor Stewart, M.D., Berry, Ky.

On the 10th ult. I was called to attend Mrs. B., in her second labor. About two hours after my arrival she was delivered of a well-developed female child. The labor was in all respects normal.

On the 13th, at 5 o'clock a.m., a messenger came in great haste to inform me that the woman was blind, and as large as before her delivery. I at once apprehended concealed hemorrhage, but flattered myself with a hope that it would prove to be flatulent distension, with some nervous disturbance. But upon examination I found the following extraordinary condition: She had been blind several hours; considerable gastric irritability; great peritoneal distension; pulse and respiration about normal.

The abdominal enlargement was manifestly the result of fluid accumulation in the serous cavity. Vaginal examination revealed nothing irregular. Anascarca was well marked. The subcutaneous areolar tissue about the eyes especially replete. Eclampsia now came on with fearful severity, seizures occurring at short intervals. During the seizures chloroform and ether inhalations were resorted to, and the tongue protected. After a trial of pot. brom. ℥i, chloral hydrat. ℈ij, which failed to control the convulsions, venesection was employed, allowing thirty ounces of blood to escape. After a few hours the convulsions ceased, but not until morphia sulph. and pilocarpine had been liberally given hypodermically.

During the succeeding thirty-six hours she remained unconscious; urine scanty and highly albuminous; pilocarpine continued. Heart failure rapidly developed; radial pulse almost imperceptible. Discontinued pilocarpine, and gave digitalis and brandy hypodermically. The heart responded promptly. During the next week she used pot. bitartrate, along with a diuretic mixture of digitalis, pot. acetat. juniper, and buchu. Albumen gradually disappeared; at a later period the dropsy also disappeared.

There was not, at any time, irregularity or departure from the normal puerperal events.

The convulsions were, I think, of uræmic origin.

Correspondence.

PHILADELPHIA LETTER.

Editors Lancet and Clinic:

Before returning home, from which I have been absent almost one year, I have taken the opportunity of visiting the "Quaker City," and as a medical man, of course, am especially interested in her medical schools. I have postponed my visit too late to hear all of the distinguished lecturers, as most of them have finished their courses of lectures, and the time is come when anxiety is depicted on the faces of candidates, an expression only to be removed by the "well done" approbation.

I visited the University Hospital on Wednesday where Prof. Agnew and Goodell held clinics. To-morrow Prof. Goodell will make an explorative examination in a case which he said he believed to be ovarian disease, but as there were some points in the history which caused him to doubt, he very frankly admitted that he did not know.

Yesterday morning Professor Stillé closed his course of lectures and with it ends his public career. The enthusiasm with which he was greeted as he took his place in the amphitheatre was a proof of the high esteem in which he is held by his students; and to the place that is now vacant, but few can do justice. I have as correctly as possible, without the knowledge of phonography, written a synopsis of his address. Thinking that perhaps you would be interested in it, I send it to you:

"To-day I retire from a position which for twenty years I have filled. When I assumed the duties of my chair in this institution, I was not an adventurer, for I had previously been a teacher. Notwithstanding this fact I was not unmindful of my fearful responsibilities and now, as I retire, I am equally impressed with the weight of them. In every pursuit of life there is a mark at which the ambition of those who follow, aims. How few indeed ever reach the point marked out by them in their early day dreams! How many, alas, fall far short of anything like their ideal goal of perfection toward which their every energy was tending. And now, gentlemen, at the close of a career thus rapidly passed, although I feel that there are objects to which I have not attained, I hope that my labor has not been entirely in vain."

The speaker said that he wished to specially impress upon the minds of his pupils the danger of the reliance alone on theory. "Theories," he said, "are of all the most seductive and the stumbling blocks to the young practitioner." He wished it to be remembered that by a clinical knowledge alone would they succeed. "The theorist, as it were, places himself upon a lofty height above the clouds where his view is one of widest extent, but, alas, its depth is limited by the clouds just beneath him, which will chill his lofty aspirations."

"It is the duty of the physician to see the end as well as the beginning of a disease, to know when to refrain from the prescription of drugs, for many are the cases presented to the physician which require no medication."

"The issues of life and death are not in human hands, but there are circumstances in the life of a physician for which he will be held responsible. We shall stand in judgment and answer to our talents, whether those natural ones or those acquired by labor have been increased, or whether the handful of seeds have grown hard and dry or moldy in our possession."

The professor next laid special stress on the importance of an education preliminary to the study of medicine. He had made the attainment of a higher elevation of medical education a special labor, and he felt gratified that other schools, together with the University, had made a move in that direction. The course of study at the University has already been extended to three years of six months each. It is the intention to further extend it. Speaking of the importance of a preliminary education, he said: "The man who does not possess a knowledge of the classics, of the higher mathematics and the training which is received beyond the common schools, who is a simple brandisher of instruments and not the perfect gentleman, will lack in his therapeutics half his attainable power. He will be unable to administer to the mind such medication as is often in itself the only remedy needed. The manner in which this education better adapts one to the study of a professional life is little understood by the ignorant; that it has any connection with the study of medicine is questioned by many. It is nevertheless true that the training through which a student is taken in acquiring a knowledge of the various collegiate branches, better fits him for the pursuit of the study of theology, medicine or law. He who lacks this drilling with the jacket and pinafore of childhood will go tottering along and stumbling in manhood. Not only will the possession of a higher education assist the physician during his active professional life, but in the years of repose to which he looks forward, when, on account of his waning physical powers, he is no longer able as formerly to pursue his duties, it will be his greatest comfort and pleasure to occupy his mind in literary work."

The picture which he drew of the young man just commencing his professional life was a true one.

The development of the caterpillar into the beautiful butterfly is watched with no more interest than is the young physician who is just emerging from the chrysalline state of student life. All things look bright before him, and in the morning of his life he stands as upon a pinnacle, from which he views the rising peaks as stepping-stones to success, and upon the horizon the sun sends forth his golden rays and the earth is filled with a halo of glory. The sun rises, and at noonday the young man is already wearied with his journey, and his appetite is still unsatisfied. I am accustomed to look upon the beginner with pity. He finds that the instruments with which he had hoped to succeed are of little use, and has to learn that experience teaches all things. Let him learn the authority of experience and the genius of common sense. There is a tendency among some of the older members of the profession to look upon him with scorn on account of his lack of experience. Shame upon the hand that would dare crush one of them! It is sometimes asked, and not without the flavor of a sneer, why a "Code of Ethics" is necessary in the medical profession. The most ancient code, the Decalogue, has remained intact for thousands of years.

Where law and government exist, men of all classes are drawn more closely together. All possess special laws according to their several needs. The necessity of law arises from the lack of natural, perverted, moral sense in dealing with one another. If each one could see himself as seen by others, if the Golden Rule were never broken, there would be no need of such law. Law is nature's remedy to cure nature's defects, and he who judges the needlessness of law lifts himself into a judgment seat where Moses himself dare not sit.

In the medical profession, unlike the legal, there is no tribunal before which its members are held accountable. The physician is the only human being admitted behind life's scenes. He is the confidante and friend of those whose disease he treats. Is there any reason why he should be jealous of a rival who endeavors to trespass upon his domain? Therefore, the necessity of such a guard. It is a sign of decadence in medicine that these laws are treated with such sneers. and considered as only fit for children. Imagine a world without law, a world without faith, a world without love. It were as easy to conceive one without light or heat.

After thanking the students for their kindness and attention during his course of lectures, the venerable, venerated teacher, amid heartfelt cheers and applause, closed his public career.

G. H. GOODE.

THE first annual report of the New-York Skin and Cancer Hospital has just been published. In it the following figures in reference to the increasing mortality from cancer in New York City are given:

In 1869 there were 304 deaths from cancer, being a little over one per hundred of deaths from all causes. In 1879 there were 572 deaths from cancer, being a trifle over two per hundred of all deaths, that is, in ten years the proportion of deaths from cancer had nearly doubled. In 1880 there were 659 deaths from cancer, or 2·06 per cent of all deaths, the mortality from the disease being greater than that from scarlet fever, which amounted to 618. In 1881 cancer caused 707 deaths, and in 1882, 731 deaths, while during the fourteen years mentioned there were 6,843 deaths from it. Up to the time of the establishment of this hospital, cancer patients were admitted to only one or two institutions in the city, and then not for the purpose of treatment, but simply to await the fatal termination of the disease, and nowhere in this country had cancer cases been grouped together with a view of studying the disease as to its nature and cure.

THE CINCINNATI
LANCET AND CLINIC
A Weekly Journal of
MEDICINE AND SURGERY,
ISSUED EVERY SATURDAY.

TERMS, $3.50 PER ANNUM IN ADVANCE.

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DR. J. C. CULBERTSON,
EDITOR AND PUBLISHER,
281 W. 7th STREET, CINCINNATI, OHIO.

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Cincinnati, April 19, 1884.

The Week.

CINCINNATI MEDICAL SOCIETY.—Dr. J. L. Davis will read a paper at the next meeting, April 22d, on "Palatable Prescriptions."

ACADEMY OF MEDICINE.—At the next meeting, April 21st, Dr. P. S. Conner will read a paper on "Cephalhæmatoma," and Dr. E. S. McKee one on "The Hymen."

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Selections.

MEDICINE.

EVOLUTION AND DISSOLUTION OF THE NERVOUS SYSTEM.—Lecture delivered at the Royal College of Physicians March, 1884. By J. HUGHLINGS JACKSON, M.D., F.R.S., F.R.C.P.

The doctrine of Evolution daily gains new adherents. It is not simply synonymous with Darwinism. Herbert Spencer applies it to all orders of phenomena. His application of it to the nervous system is most important for medical men. I have long thought that we shall be very much helped in our investigations of diseases of of the nervous system by considering them as reversals of evolution, that is, as Dissolutions. Dissolution is a term I take from Spencer as a name for the reverse of the process of evolution.

The subject has been worked at for many years. About half a century ago, Laycock applied the doctrine of reflex action to the brain. Sir Chales Bell, in speaking of degrees of drunkness, and Baillarger, in speaking of aphasia, have pointed out that there is a reduction from the voluntary towards the most automatic. The late Dr. Anstie's researches (*Stimulants and Narcotics*) are perhaps the most valuable of all contributions towards the study of diseases of the nervous system as examples of dissolution, although he did not use that term. I refer, also, with great respect to the most valuable and highly original work which Ross, Ribot, and Mercier have done in the same direction. The brilliant researches of Hitzig and Ferrier, besides their obvious great value in other ways, are of very great value in supporting the doctrines of evolution and dissolution of the nervous system. In this connection, I gladly mention with great respect a recent valuable paper on cerebral localisation by Dr. Sharkey.

Wishing, as soon as possible, to give illustrations of dissolution, I will make the necessary preliminary remarks as short as I can. I speak only of the most striking aspects of evolution and dissolution, leaving entirely out of account some very important factors specially insisted on by Herbert Spencer. I regret that time renders it necessary for me to simplify my subject by serious omissions. Spencer, to whom I am under deepest obligations, must not be judged by my present application of his doctrines, or, rather, of part of them. I have to ask pardon for the use in this lecture of some popular terms. "Most voluntary," though it has a technical sound, is, when used in contrast to "most automatic," a popular term; later on, it will be discarded. I have also to acknowledge an omission; I speak for the most part of the cerebral system only, almost ignoring all divisions of the cerebellar system. For the present, I neglect the absolute distinction which there really is between mental and nervous states.

Beginning with evolution, and dealing only with the most conspicuous parts of the process, I say of it that it is an ascending development in a particular order. I make three statements which, although from different standpoints, are about the very same thing. 1. Evolution is a passage from the most to the least organised; that is to say, from the lowest well organised centres up to the highest least organised centres: putting this otherwise, the progress is from centres comparatively well organised at birth up to those, the highest centres, which are continually organising through life. 2. Evolution is a passage from the most simple to the most complex; again, from the lowest to the highest centres. There is no inconsistency whatever in speaking of centres being at the same time most complex and least organised. Suppose a centre to consist of but two sensory and two motor elements; if the sensory and motor elements be well joined, so that "currents flow" easily from the sensory into the motor elements, then that centre, although a very simple one, is highly organised. On the other hand, we can conceive a centre consisting of four sensory and four motor elements, in which, however, the junctions between the sensory and motor elements are so imperfect that the nerve-currents meet with much resistance. Here is a centre twice as complex as the one previously spoken of, but of which we may say that it is only half as well organised. 3. Evolution is a passage from the most automatic to the most voluntary.

The triple conclusion come to is that the highest centres, which are the climax of nervous evolution, and which make up the the "organ of mind" (or physical basis of consciousness) are the least organised, the most complex, and the most voluntary. So much for the positive process by which the nervous system is "put together"—Evolution. Now for the negative process, the "taking it to pieces"—Dissolution.

Dissolution being the reverse of the process of evolution just spoken of little need be said about it here. It is a process of undevelopment; it is a "taking to pieces" in the order from the least organised, from the most complex and most voluntary, towards the most organised, most simple, and most automatic. I have used the word "towards," for, if dissolution were up to and inclusive of the most organised, etc., if, in other words, dissolution were total, the result would be death.

I say nothing of total dissolution in these lectures. Dissolution being partial, the condition in every case of it is duplex. The symptomatology of nervous diseases is a double condition; there is a negative and there is a positive element in every case. Evolution not being entirely reversed, some level of evolution is left. Hence the statement, "to undergo dissolution" is rigidly the equivalent of the statement, "to be reduced to a lower level of evolution." In more detail; loss of the least organised, most complex, and most voluntary, implies the retention of the more organised, the less complex, and the more automatic. This is not a mere truisim, or, if it be, it is one that is often neglected. Disease is said to "cause" the symptoms of insanity. I submit that disease only produces negative mental symptoms answering to the dissolution, and that all elaborate positive mental symptoms (illusions, hallucinations, delusions, and extravagant conduct) are the outcome of activity of nervous elements untouched by any pathological process; that they arise during activity on the lower level of evolution remaining. The principle may be illustrated in another way, without undue recapitulation. Starting this time with health, the assertion is made that each person's normal thought and conduct are, or signify, survivals of the fittest states of what we may call the topmost "layer" of his highest centres; the normal highest level of evolution. Now, suppose that from disease the normal highest level of evolution (the topmost layer) is rendered functionless. This is the dissolution, to which answer the negative symptoms of the patient's insanity. I contend that his positive mental symptoms are still the survivals of his fittest states, are survivals on the lower, but then highest, level of evolution. The most absurd mentation, and most extravagant actions in insane people are the survivals of their fittest states. I say "fittest," not "best;" in this connection the evolutionist has nothing to do with good or bad. We need not wonder that an insane man believes in what we call his illusion; they are his perceptions. His illusions, etc., are not caused by disease, but are the outcome of activity of what is left of him (of what disease has spared), of all there is of him; his illusions, etc., are his mind.

After this sketch, I mention what may appear to be a drawback. Scarcely ever, do we meet with a case of dissolution which we can suppose to be the exact opposite of evolution. Often enough, however, do we meet with its near opposites. I will try to dissipate any difficulties that may arise. We make two broad divisions of cases of dissolution, Uniform and Local.

In Uniform Dissolution the whole nervous system is under the same conditions or evil influence; the evolution of the whole nervous system is comparatively reversed. In these cases the whole nervous system is "reduced," but the different centres are not equally affected. An injurious agency, such as alcohol, taken into the system, flows to all parts of it; but the highest centres, being least organised, "give not" first and most; the middle centres, being more organised, resist longer. Did not the lowest centres for respiration and circulation resist much more than the highest do, death by alcohol would be a very common thing. Another way or stating the foregoing is to say that increasing uniform dissolution follows a "compound order;" these stages may be rudely symbolised thus, using the inital letters of, highest, middle, and lowest centres. First stage, or depth, of dissolution, h; second stage, $h^2 + m$; third stage, $h^3 + m^2 + l$; etc. Although I shall say very little, later on, of involvement of middle and lowest centres, in cases of uniform dissolution, it is most important, especially with regard to clear notions on localisation, to recognize that the order of dissolution is a compound order.

The next division is Local Dissolution. Obviously, disease of a part of the nervous system could not be a reversal of the evolution of the whole; all that we can expect is a local reversal of the evolution that there should be loss in the order from voluntary towards automatic in what the part diseased represents. Repeating, in effect, what was said on uniform dissolution, it is only when dissolution occurs in all divisions of the highest centres that we can expect a reduction, from the most voluntary of all, towards the most automatic of all. Dissolution may be local in several senses. Disease may occur on any evolutionary level, on one side or on both sides; it may affect the sensory elements chiefly, or the motor elements chiefly. It must be particularly mentioned that there are local dissolutions of the highest centres. It will be granted that in every case of insanity, the highest centres are morbidly affected. Since there are different kinds, as well as degrees, of insanity (for examples, general paralysis and melancholia), it follows of necessity that different divisions of the highest centres are morbidly affected in the two cases. Different kinds of insanity are different local dissolutions of the highest centres.

I now come to give examples of dissolution. I confess that I have selected cases which illustrate most definitely, and pretending to be able show that all the diseases of which we have a large clincial knowledge exemplify the law of dissolution. However, I instance very common cases, or cases in which the pathology has been well worked out; they are cases dependent on disease at various levels from the bottom to the top of the central nervous system. Most of them are examples of local dissolution.

1. Starting at the bottom of the central nervous system, the first example is the commonest variety of progressive muscular atrophy. We see here that atrophy begins in the most voluntary limb, the arm; it affects, first, the most voluntary part of that limb, the hand, and, first, of all, the most voluntary part of the hand; it then spreads to the trunk, in general to the more automatic parts.

To Speak of a lower level of evolution in this case, is almost to state a barren truism; at a stage when the small muscles of the hand only are wasted, there is, centrally, atrophy of the first or second dorsal anterior horn, and the lower level of evolution is made up of the highest anterior horns for the muscles of the arm. This statement, however, is worth making, for it shows clearly that, by higher and lower, is meant anatomico-physiologically higher or lower.

2. Going a stage higher, we come to hemiplegia, owing to destruction of part of a plexus in the mid-region of the brain. Choosing the commonest variety of hemiplegia, we see that there is loss of more or fewer of the most voluntary movements of one side of the body; we find that the arm, the more voluntary limb, suffers the more and longer; we find, too, that the most voluntary part of the face suffers more than the rest of the face. Here we must speak particularly of the lower level of evolution remaining; strictly, we should say collateral and lower. We note that, although the unilateral movements (the more voluntary) are lost, the more automatic, the bilateral, are retained. Long ago, this was explained by Broadbent; subsequent clinical researches are in accord with his hypothesis. The point of it is that the bilateral movements escape in cases of hemiplegia, in spite of destruction of some of the nervous arrangements representing them; these movements are doubly represented, are represented in each half of the brain. Hemiplegia is a clear case of dissolution, loss of the most voluntary movements of one side of the body, with persistence of the more automatic movements.

3. The next illustration is paralysis agitans. Apart from all speculation as to the seat of the disease, the motorial disorder illustrates dissolution well. In most cases, the tremor affects the arm first, begins in the hand, and in the thumb and index-finger. The motorial disorder in this disease becomes bilateral. In an advanced stage, paralysis agitans is double hemiplegia with rigidity—is a two-sided dissolution.

4. Next we speak of epileptiform seizures, which are unquestionably owing to disease in the mid region of the brains (middle motor centres). Taking the commonest variety, we see that the spasm mostly begins in the arm, nearly always in the hand, and most frequently in the thumb or index-finger, or both. These two digits are the most voluntary parts of the whole body.

5. [The next illustration was by cases of temporary paralyses after epileptiform seizures.]

6. Chorea is a disease in which the limbs (the most voluntary parts) are affected more than the trunk, the more automatic parts; the arms, the more voluntary limbs, suffer more than the legs. The localisation of this disease has not been made out. Symptomatically, however, it illustrates dissolu-

tion. Chorea has a peculiar interest for me. The great elaborateness of the movements points, I submit, to disease "high up"—to disease on a high level of evolution. Twenty years ago, from thinking on its peculiarities, it occurred to me that convolutions represent movements—a view I have taken ever since.

7. Aphasia well illustrates the doctrine of dissolution, and in several ways. We consider a case of complete speechlessness. *a.* There is loss of intellectual, the more voluntary language, with persistence of emotional, the more automatic language. In detail, the patient cannot speak, and his pantomime is of a very simple kind; yet, on the other hand, he smiles, frowns, varies the tones of his voice (may be able to sing), and gesticulates as well as ever. Gesticulation, which is an emotional manifestation, must be distinguished from pantomime, which is part of intellectual language. *b.* The frequent persistence of "yes" and "no" in the case of patients who are otherwise entirely speechless is a fact of extreme significance. We see that the patient has lost all speech, with the exception of the two most automatic of all verbal utterances. "Yes" and "no" are evidently most general, for they assent to, or dissent from, any statement whatever. In consequence of being frequently used, the correlative nervous arrangements are of necessity highly organised; and, as a further consequence, they are deeply automatic, *c.* A more important though not more significant illustration is, that the patient, who cannot get out a word in speech, nevertheless, understands all that we say to him. Plainly, this shows loss of a most voluntary service of words, with persistence of a more automatic service of words. *d.* There are three degrees of the utterance "no" by aphasics. A patient may use it emotionally only; most automatic service. Another patient may also be able to reply correctly with it; a less automatic, but still very automatic, service (here there is some real speech). There is still a higher use of it, which some aphasics have not got. A patient who can reply "no" to a question, may be unable to say "no" when told to do so. You ask the aphasic, "Is your name Jones?" He replies, "No." You tell him to "say no;" he tries and fails. You next ask, "Are you a hundred years old?" He replies, "No." You tell him to "say no;" he cannot. Whilst not asserting that the inability to say "no" when told is a failure in language, it is asserted that such inability, with retention of power to use the word in reply, illustrates dissolution. *e.* A patient, who is speechless, may be unable to put out his tongue when told to do so; that he knows what is wanted, is sometimes shown by his putting his fingers in his mouth to help out the organ. That the tongue is not paralysed in the ordinary sense is easily proven; the patient swallows well, which he could not do if his tongue were so much paralysed as "it pretends to be;" besides, on other occasions, he sticks the tongue out, for example to catch a stray crumb. Here is a reduction to a more automatic condition; there is no movement of the tongue more voluntary than that of putting it out when told.

[The lecturer then remarked on swearing and on the utterance of other and innocent ejaculations by aphasics, remarking that some of these utterances have elaborate propositional structure, but no propositional value, the patients could not repeat what under excitement they uttered glibly and well. He spoke next of the frequent retention of some recurring utterances by aphasics, such as "come on to me." These were not, from the mouth of the aphasic, of any propositional value, they were not speech. He had no explanations to offer of them, but stated the hypothesis that they were the words the patient was uttering, or was about to utter at the time he was taken ill.]

8. So far I have spoken of local dissolutions, occurring on but one half of the nervous system on different levels. Coming to the highest levels I speak of uniform dissolutions, in cases in which all divisions of these centres are subjected to the same evil influence. I chose some cases of insanity. In doing this I am taking up the most difficult of all nervous diseases. I grant that it is not possible to show in detail that they exemplify the principle of dissolution, but chosing the simplest of these most complex cases, we may show clearly that they illustrate it in general. I take a very commonplace example, delirium in acute non-cérebral disease. This, scientifically regarded, is a case of insanity. In this, as in all other cases of insanity, it is imperative to take into account not only the dissolution, but also the lower level of evolution that remains. The patient's condition is partly negative and partly positive,

Negatively he ceases to know that he is in hospital, and ceases to recognize persons around him. In other words, he is lost to his surroundings, or in equivalent terms, he is defectively conscious. His not knowing where he is, is in itself defect of consciousness. The negative mental state signifies, on the physical side, exhaustion, or loss of function, somehow caused, of some highest nervous arrangement of his highest centres. We may conveniently say that it shows loss of function of the topmost "layer" of his highest centres. No one, of course, believes that the highest centres or any other centres are in layers, but the supposition will simplify exposition. The other half of his condition is positive. Besides his not knowings, there are his wrong knowings. He imagines himself to be at home or at work, and acts, as far as practicable, as if he were. Ceasing to recognize his nurse as a nurse, he takes her to be his wife. This, the positive part of his condition, shows activity of the second layer of his highest centres, but which, now that the normal topmost layer is out of function, is the then highest layer. His delirium is "the survival of the fittest states" on his then highest evolutionary level. Plainly he is reduced to a more automatic condition. Being, negatively, lost to his present "real" surroundings, from loss of function of the highest, latest developed, and least organized, he positively talks and acts as if adjusted to some former "ideal" surroundings, necessarily the more organized.

I now make some general remarks on the eight illustrations, in order to prevent certain misunderstandings. It is asserted again that each of the eight cases is of a different dissolution. All that is meant is that each shows a reduction from the voluntary towards the automatic, in what the center, or part of it, which is diseased represents. If we take extreme cases, the case of progressive muscular atrophy, and the case of insanity (delirium in acute noncerebral disease), we say that the two are alike, because in each there is a reduction to a more automatic condition; and we say, too, that they are very unlike, the parts of the nervous system morbidly affected being exceedingly different.

I have so far almost ignored the distinction between nervous states and mental states. Now, if the case of insanity be considered as a series of mental phenomena only, it would be absurd to compare, or even to contrast it with progressive muscular atrophy, which is a series of physical phenomena only. But no difficulty can arise if it be understood that insanity, or "disease of the mind," is, with medical men, disease of the highest nervous centres, revealing itself in a series of mental phenomena. We compare and contrast disease of the highest centres with disease of some anterior horns (some lowest centres), revealing itself in atrophy of certain muscles. But, acknowledging this, it may be said that the two things are so exceedingly different that it is frivolous to compare, or even to contrast, them on any basis. Yet no one denies that each is a morbid affection of the central nervous system. This being granted, the rejoinder to those who insist on the extreme unlikeness is that one is a disease at the very bottom and the other at the very top of the central nervous system; two lesions can not possibly be further apart in the central nervous system. Still, it may be said that classification on the principle of dissolution if true, is of no value; that it is of no use making an orderly, ascending series from progressive muscular atrophy to insanity—of no use showing that progressive muscular atrophy is a reduction to a more automatic condition, a small corner on the lowest level; that hemiplegia is such a reduction on a larger scale, higher up, and that insanity is such a reduction on the topmost level, and on the largest scale — that even if this kind of work could be thoroughly well done, it is not worth any one's while to do it. I grant that such a classification is not of direct value, but yet, I think, of much indirect value for clinical purposes. We require in our profession two kinds of classification. The use of two kinds of classification may be easily illustrated. There is a classification, or strictly an arrangement, of plants by the farmer, for practical purposes, and there is a classification of plants by the botanist for the advancement of biology. I submit that there is no more incongruity in classing together progressive muscular atrophy and insanity upon the basis mentioned than there is in classifying the bamboo with common grass, or the harts-tongue with the tree-fern in the botanist's garden. Such a classification of plants would be absurd in a farm or kitchen garden, and so the classification of diseases of the nervous system upon the principle of dissolution would be absurd in an asylum, or in the wards of a hospital. I know of no other basis than that supplied by the doctrine of evolution, on which cases of insanity — diseases of the highest centres — can be studied comparatively with non-mental diseases of the nervous system[*] — diseases of lower centres.

I next speak of different depths of particular dissolutions. The deeper the dissolution, the shallower the level of evolution remaining. In hemiplegia, owing to a lesion of the internal capsule, there are, according to the gravity of the lesion, three degrees or depths, (Of course, the division into three degrees is arbitrary.) In the first degree there is some paralysis of the face, arm and leg; in the second, there is more paralysis of these parts, and, in addition, there is greater range of paralysis — the patient's head and eyes are turned from the side paralyzed. Here is illustrated what I call "compound order." The difference between the two degrees is, not that in the second there is more paralysis only, nor that there is greater range of paralysis only, but in both respects; there is more paralysis of the parts affected in the first degree, and extension of range of paralysis to parts beyond them. An adequate doctrine of localization has to account for increase of paralysis in "compound order" on increasing gravity of lesions. In the third degree, or rather beyond, hemiplegia, there is universal immobility. In this degree the patient has lost consciousness, and this loss may be said to explain why he does not move the "other" or "second" side of his body. I hope later to show that explanations of materialistic states by psychical states are invalid.[*]

I wish here to bring evidence in support of the opinions I have long held — that all parts of both sides of the body are represented in each half of the brain. The view I take is simply an extension of Broadbent's hypothesis already referred to. My supposition is that the limbs of the two sides are very unequally represented in each half of the brain, whilst the bilaterally acting muscles are very nearly equally represented in each half. Evidence that at least some parts of both sides of the body are represented in each half of the brain is that, consecutive to a negative lesion of one internal capsule, there is wasting of nerve fibres "descending" into both sides of the spinal cord.

Degrees of epileptiform seizures illustrate different depths of dissolution. There are degrees of these, from—to take an example spasm of the thumb and index finger to universal convulsion.(1) That these degrees are compound is very evident. The first stage of the fit is, to speak roughly, that the arm is a little affected,; the second stage is that the arm is more affected, and the face a little; the third stage is that the arm is most affected, the face much, and leg a little. This compound order of spreading, which any adequate doctrine of localization has to account for, may be symbolized thus: a, then a^2+f, then a^3+f^2+l, etc. There are degrees beyond this to universal spasm; these cases, I submit, supply further evidence that both sides of the body are represented in each half of the brain. Certain experiments by Franck and Pitres (*Arch. de Phys.*, August 15, 1883, No. 6) bear in a most important way on the question as to double representation. After exposing the so-called motor region(2) of each half of the brain of a dog, they removed the motor region on one half, and then found that faradisation of the "arm center" on the half intact (left) produced universal convulsion; they found, too, that the spasm followed a particular order, that it affected the right arm (so to call it), then the right leg, then the left leg, and then the left arm. "L'epilepsie peut donc se géneraliser malgré la destruction préalable de la zone motrice d'un cote, malgré la section longitudinal complète du corps calleux" (Franck and Pitres). Here seems to be evidence that both sides of the body are represented in each half of the brain, and also that the two sides are differently represented in each half. The distinguished French physicians to whose observations I have referred, hold, I must mention, that "Le cerveau commence l'attaque, la protuberance, le bulbe, et la moelle la géneralisent." If this be so, still proof is

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1. I am not speaking of epileptic attacks, which depend, I think, on discharges beginning in parts of centers of a higher, the highest, level of evolution. A man long subject to very limited epileptiform seizures may at length have seizures beginning in the same way and becoming universal, but these are not epileptic seizures, they are only more severe epileptiform seizures.

2. I say "so-called motor region," not because I deny that the parts in this region are motor — I call them the middle motor centres — but because I believe the parts in front to be motor also, to be the highest motor centres.

given that movements of all parts of tne body are under command of, if not represented fully in each half of the brain. This is a matter of extreme importance for the doctrines of evolution and dissolution. The evidence, as I read it, is that the middle motor centres (a discharge beginning in parts which causes epileptiform seizures) of each half of the brain represents movements of both sides of the body. Other facts will, I think, show that the highest motor centres (frontal lobes) re-represent, in more intricate combinations, all that the middle centres have represented in simpler combinations; a discharge beginning in parts of these more evolved centres produces an epileptic seizure, which is, so to speak, a "more evolved convulsion" than an epileptiform seizure.

[In the remainder of the lecture many degrees of aphasia were instanced, to illustrate different depths of dissolution, and different shallows of evolution remaining, and also to illustrate the dual symptomology of disease. The wrong words uttered by a patient who has "defect of speech," are owing to activities of healthy nervous arrangements, while the disease is answerable only for the patient's not saying the right words. The states comparable in a case of "defect of speech" with the states in the case of another aphasic, and who can only say "no," are (1) negatively, inabilities of the former to say the right words, with the latter speechlessness; and (2) positively, the utterance of numerous wrong words by the former, with the retention of "yes" and "no" only by the latter. In the former the dissolution is slight, and the level of evolution very high; in the latter the dissolution is deep, and the level of evolution very shallow].

CLINICAL LECTURE ON THE PROGNOSIS IN CHRONIC BRIGHT'S DISEASE.—Lecture *delivered in the Philadelphia Hospital.* By EDWARD T. BRUEN, M.D.

The question of prognosis in renal diseases, in common with similar questions in other forms of disease, is often vague and unsatisfactory. The three cases which I present to-day illustrate chronic forms of Bright's diseases, and I desire to use them to teach the paramount importance of the diagnosis of the cardiac and arterial changes in the prognosis of chronic Bright's diseases.

Physical examination reveals, in each instance, marked hypertrophy of the left ventricle of the heart; and the sphygmographic tracings show the oblique percussion-strokes, with its rounded apex, indicative of an increased arterial tension. The frequency of arterial and cardiac changes in the interstitial renal process is acknowledged on all sides. Dickinson places the proportion of cases in which the left ventricle is hypertrophied at thirty-one out of sixty-eight cases; Traube, at ninety-three out of one hundred; and Grainger Stewart says that, at a somewhat advanced stage, it is never entirely absent.

The parenchymatous forms of nephritis commonly pass through three stages: (1.) Stage of inflammation more or less pronounced. (2.) Stage of fatty transformation, which is more or less rapidly produced, since it may be developed in a few weeks or may continue for years. It is accompanied by a less diffiuse and subacute form of inflammation than in the first stage. (3.) Stage of atrophy, presenting the smooth, granular, fatty, kidney, more or less closely resembling the contracted interstitial kidney.

In certain cases of parenchymatous nephritis, hypertrophy of the heart also prevails, especially in those which have become chronic. An idea as to the relative frequency of hypertrophy of the heart in this condition of the renal substance can be obtained from the writings of Grainger Stewart. He found hypertrophy of the heart present in only twelve per cent. of cases fatal in the first stage, thirty-eight per cent. of those fatal in the second stage, and one hundred per cent. of those fatal in the third stage. The hypertrophy of the heart is not nearly so frequent in the early stages. This may be explained by the great losses of albumen in cases at this time, by which their nutrition is profoundly affected and the nutrition of the heart equally so with the other organs.

Together with the hypertrophy of the heart there exist in chronic renal diseases certain arterial changes, representing arterial thickening due to an increase in the two outer coats of these vessels, which condition is often succeeded by atheroma. To make the proposition relating to the cardiac hypertrophy and vascular thickening apply to cases in general, we may say that both are due to capillary resistance and are consequences rather of chronic renal inadequacy, however produced, than belonging to any definite type of renal disease.

The frequency of cardiac and arterial lesions being conceded, we may appreciate their value in prognosis when we consider that the activity of other eliminative channels is dependent very largely upon the perfect performance of the circulation. The thorough elaboration of the food in the intestinal canal and liver is dependent upon the activity of the portal and mesenteric circulation. Indeed, the function of the liver is especially important in nutrition, since the discharge of imperfectly elaborated albuminoids through the hepatic vein is a potential cause of deterioration of the blood-tissue, and prepares the way for the development of uræmia. This condition is one in which the interchange of the nutritive elements of the blood with the waste elements of the tissues and their mutual replacement is seriously compromised. The nutrition of the cardiac muscle is among the first to be affected, and through cardiac failure the nutrition of the tissues in general becomes undermined. The importance of perfect cardiac nurition in chronic renal disease is therefore manifest.

Probably the prognosis of chronic interstitial nephritis is especially involved in the question of the cardiac nutrition, since all observers are agreed that failure of cardiac force may suddenly precipitate an attack of uræmia. But in chronic forms of nephritis with associated and parcenchymatous changes, or in chronic parenchymatous nephritis, even waiving the question whether there is, in all chronic cases of long duration, a tendency to contracted kidney, the condition of the heart will prove the determining factor in diagnosis. In comparatively reviewing the general basis for prognosis in chronic forms of nephritis, one must consider the character of the other data upon which a prognosis may be based. The chemical quantitative examination of the urine for urea is important, but a compensative activity of the circulation will obviate the imperfect renal secretion, and the cardiac nutrition is sensitive to prolonged reduction in the activity of renal circulation.

The miscroscopical examination of the urine for casts as evidences of renal alterations is very significant, but the deductions from these are obviously most correct when considered together with the cardiac condition. In this way, in interstitial nephritis, the duration of the disease may be estimated, and mistakes due to inferences drawn from the presence of casts can be avoided, since recovery from renal disease has occurred even when casts indicative of the second stage of parenchymatous fatty degeneration have been found. The activity of the digestive system is an element in the prognosis, but this also depends on the efficiency of the mesenteric circulation. The stage and date of the disease also bear close relation to the prognosis, and should be studied in connection with the cardiac nutrition.

While the foregoing remarks must be regarded as general rules, remember that prolonged insufficient cutaneous activity, or acute exacerbations of renal mischief, or intercurrent process in other organs, may at any moment place a period to the life of a patient. Therefore a prognosis on any form of chronic Bright's disease should always include and "other thing being equal."

The symptoms and complications calculated to alarm one in any form of Bright's diseases are suppression or diminution of the urine, nervous phenomena, unmanageable dropsy, chronic manifestations of uræmia, acute inflammation, and hemorrhages. Albuminuric retinitis is always a serious symptom, occurring most frequently in cirrhotic forms of nephritis. In a recent paper read before the Philadelphia County Medical Society by Dr. W. S. Little, it was stated that among nine hundred and eleven cases of Bright's disease, reported by different observers, changes in the retina has been recorded in one hundred and eighty-five, or about twenty per cent. He continues, "Can a prognosis as to the duration of the disease, or as to its fatality, be derived from the eye-symptoms? Only in chronic states of the disease, where retinal hemorrhages are extensive and repeated, the heart being diseased. Brain-symptoms soon follow in these severe types of retintis in chronic kidney-disease, a general hemorrhagic condition being developed, or uræmia may ensue. In the acute form of Bright's disease no prognosis of any value can be formed from the eye-symptom, though severe."

I would add that an exception to the commonly serious character of albuminuric retinitis should be made in favor of pregnant women.

Finally, the progress of arterial lesions as associated with the cardiac lesions must be analyzed, especially to discover the presence of atheroma. These arterial lesions affect the cardiac nutrition by reducing aortic systole, and so interfering with the circulation through the coronary arteries. The progress of these changes can be successfully studied with the sphygmograph. Tracings should always be taken in chronic Bright's diseases, and the increase of arterial tension proportionate to the cardiac hypertrophy is a favorable sign, too high a grade unfavorable, indicating the surcharged state of the blood with unreduced albuminoids. The decrease below the standard is extremely unfavorable, since it is the precursor of degenerations and the harbinger of the various complications which terminate the clinical history of these cases. With the above facts in mind, our prognosis may stand as follows:

Parcenchymatous nephritis is often quickly dangerous, but if a case survive the initial period the prognosis in the early stages is less unfavorable to ultimate recovery than in the cirrhotic form. In the second stage, representing the stage of fatty transformation, recovery, though rare, is possible. The patient may survive for a long period, although at any time death may ensue from sudden or gradual increase of the symptoms, or from intercurrent affections. In the third stage (*i. e.*, that of atrophy) the deterioration of general health renders the prognosis most unfavorable, yet even in this stage, if the cardiac nutrition be good and suitable hygienic and therapeutic conditions be fulfilled, life may still be prolonged for considerable periods. In the forms of renal diseases cirrhotic from the outset, the progress of the disease is slow and insidious and the fatal result long deferred, yet the disease may be considerably advanced before it is detected, and the cardiac and arterial lesions materially assist us in approximating the stage of the process and its duration.

In conclusion, let me notice the sometimes favorable prognosis and short duration of attacks of subacute catarrhal nephritis occurring independently of scarlet fever in children. Recent publication in the English journals have called attention to such cases. They occur most often in children who suffer from enlarged tonsils and catarrhal tendencies. In such cases the ordinary symptoms of reduced urinary secretion, dropsy, etc., prevail; the urine is albuminous, and contains casts, without blood. All the symptoms may vanish in two to four weeks, and convalescence ensue, if appropriate treatment be instituted and favorable hygienic conditions exist.—*Phil. Med. Times.*

ENDARTERITIS AND GANGRENE OF THE LIMBS IN TYPHOID FEVER.—The cause of the arterial obstructions sometimes observed in typhoid fever has been the subject of much discussion and of numerous researches during the last few years. Some authors, adopting Hayem's opinion, tried to prove that thrombosis of the arteries is the result of their obliteration by an embolus coming from the heart; but this organ is sometimes found quite healthy, and a paper published recently by Dr. Barié in the *Revue de Médicine* goes far to support an opinion already expressed by Patry de St. Maure, according to which the obliteration is due, in nearly all cases, to endarteritis. Dr. Barié, who bases his conclusions on careful observations and necropsies, states that typhoid fever may produce two forms of endarteritis, the obliterating and the parietal. Both are characterized anatomically by an infiltration of all the coats of the artery with embryonic cells; the internal coat loses its polish, and in the obliterating form the blood coagulates at the diseased spot and plugs the vessel; in the parietal form, small clots are found on the internal coat, but the circulation is not arrested. These lesions occur most frequently in the arteries of the lower extremities, but they may be found also in those of the upper limbs, in the carotid, the arteries of the heart, liver, spleen, etc. They are due, according to Dr. Barié, to an inflammation of the arterial walls, and to a vaso-motor paralysis consequent on the presence of micro-organisms in the blood. They appear generally about three weeks after the onset of the disease. The symptoms of the obliterating form are violent pains along the artery, which is hard and tender to the touch, diminution or disappearance of its pulsations, swelling of the limb without œdema or redness, and diminution of the temperature; after some time, dry gangrene of the limb generally supervenes, and amputation may be required; the prognosis of the operation is of course very unfavorable, but some successful cases have been recorded by Lereboullet, Patry, and others. In the parietal form there is also pain along the artery and swelling of the limb, but the vessel does not feel indurated, the pulsations are often increased at first and then diminished; the temperature of the limb is generally lower but sometimes higher than on the sound side. After a few days the symptoms disappear, and in most cases the patient recovers completely.—*British Medical Journal.*

Dr. Formad says in *Philadelphia Medical Times* of the bacillus question and of the etiology of tuberculosis the conclusions follow—

1. That the bacillus of Koch is a valuable diagnostic sign of tubercular disease.
2. That nothing is proved by its discovery for the etiology of tuberculosis.
3, That the too ready acceptance of the bacillus doctrine is not justifiable, and is likely to do more harm than good.
4. That neither phthisis nor any form of tuberculosis is contagious.

Symptoms on the Sound Side in Hemiplegia.—M. Dignat (*Progrès Médical*) in some recent lectures on this subject, draws attention to the fact that while some muscles (of the larynx, eyeballs, etc.), on the affected side almost always escape, conversely motor and nutritive abnormalities not unfrequently show themselves in a minor degree on the same side as the brain lesion. In the upper extremities the only bilateral change as yet demonstrated is diminution of muscular force, which commonly amounts to 38.5 per cent. by the dynamometer, on the side of brain lesion. Reflex and other vital functions are unimpaired on this side. The weakness progresses as death approaches, and becomes less marked, though never quite remedied, in the event of recovery. In the lower extremities the following changes are common to both limbs from the first, or become so: 1. Muscular power is lost on the apparently normal side, cöordination being in a greater degree (50 per cent.) than in the corresponding arm, and sometimes even than in the opposite leg; but in the process of recovery it is more rapidly regained than it is by the latter. 2. Cöordination of movements is impaired in some cases on the side of brain lesion as well as on the opposite. Patients of this class can move the less afflicted limb in every direction while lying, but can not use it in walking or even in standing, though the muscular power may be good. The power of cöordination necessary for maintenance of equilibrium and for progression is lost. In other cases cöordination is perfect in this limb, while muscular energy is poor. This is the more common condition. 3. Rapidly formed bedsores are apt to appear in the unparalyzed limb, usually after the paralyzed one has developed this condition. In one case of white softening in the right centrum ovale, bedsores formed in both extremities at the same time. (Charcot.) 4. Exaggeration of the reflex characteristically present on the side of hemiplegia is frequently perceptible in the opposite leg, and is occasionally as marked in the latter as the former, though usually it is less so. This phenomenon, formerly believed to mark the advent of degenerative change immediately prior to contracture, has already been observed by MM. Westphal and Claus, and now by M. Dignat, to occur at the time of the primary cerebral shock, and to be sometimes simultaneous in both lower extremities. 5. Epileptoid tremor produced in the leg by flexion of the foot at the ankle. Like the exaggerated knee reflex, it comes on sometimes with the stage of secondary contracture, sometimes immediately after the primary hemiplegia, and may arise on both sides simultaneously. It may even be present in the apparently sound limb, while absent in the paralyzed extremity, as in a case cited by M. Dignat.

The above observations were fully illustrated by cases. M. Dignat added the following explanations: 1. The diminution of muscular power on the side of brain lesion is probably due to functional reaction by shock of that injury on the motor centers of the opposite hemisphere with which its own has communications. 2. The bedsores are due to some similar trophic alteration. 3. Exaggerated tendon reflex results from functional changes, which increase the medullary excitability. 4. Secondary contracture and other permanent motor affections, when bilateral, are due to degenerative changes in both halves of the spinal cord. They are limited to the fibers which supply the lower limbs. They occupy in some cases both lateral columns (Pitres), in others the lateral column of the hemiplegic side and the inner part of the anterior column of that opposite (Turck), The former observation bears out the view that the lateral columns of the cord do not always cross, *en masse*, to opposite sides of the brain at the decussation of the pyramids, as stated by Turck, but that part of one occasionally passes to the hemisphere of its own side without crossing. Hence an injury to this hemisphere gives rise to marked paralytic changes in the muscles supplied by the opposite lateral column, and to the same, in a less degree, in those connected with the lateral column on the side of injury.—*Practitioner.*

THE MICRO-ORGANISM OF ACUTE INFECTIOUS OSTEOMYELITIS. — Dr. Becker has made, in the laboratory of the Berlin Imperial Sanitary Office, a series of important experiments on the micro-organisms discovered by Schüller and Rosenbach. He collected pus from five cases of acute osteomyelitis in which the abscesses had not been opened, and cultivated the micrococci contained in it on sterilized potatoes, coagulated serum, and gelatine peptone. In the latter case the pus was introduced by means of needles into the mass, which was then kept at the temperature of the room during three to five days. After that time, the puncture made by the needles assumed the appearance of white streaks, around which the gelatine liquified gradually and took an orange color. After a few days more, the mass gave out a smell like sour paste, and the microscope revealed the presence of large numbers of micrococci, having the same appearance as those found in the pus. A small quantity of the mass was mixed with sterilized water and injected into the peritoneal cavity of some animals; they died in a very short time of acute peritonitis. The same fluid injected into the jugular vein caused acute septicæmia and death; but nothing abnormal was found in the bones in either case. Dr. Becker then injected a small quantity of the same fluid into the jugular vein of fifteen rabbits, after having, some days before, fractured or bruised the bone of one of their hind legs. On the day after the injection, weakness and loss of appetite were noticed; but after a short time the symptoms passed away, and the animals seemed to have recovered. At the end of the first week, however, a swelling formed at the seat of the bruise or fracture, the animals lost flesh, and died after a few days. On dissection, large abscesses were found around and in the bones, and in several cases metastatic abscesses had formed in the lungs and kidneys. Numerous colonies of micrococci were discovered in the blood and pus of the animals upon which the experiments were made.—*British Medical Journal.*

SELF-INFECTION BY THE PRODUCTS OF ABNORMAL PROCESSES OF DECOMPOSITION WITHIN THE BODY, and the Resulting (Dyscrasic) Coma (Kussmaul's "Diabetic Coma").—Senator (*Zeitschr. für Klin. Med.* Band vii., Heft 3) says that dyscrasiæ are pathological states in which the blood or fluids of the body have undergone some qualitative or quantitative change, providing that this be not the result of some organized or unorganized poison introduced from without, in which case we speak of it as infection or intoxication.

These dyscrasiæ have long been recognized as the result of the retention of some normal excretion; and the history of medicine shows the importance formerly attached to such doctrines, all sorts of diseases being attributed to the suppression of perspiration, menstruation, lactation, and even the sperma virile, which was said to cause cachexia spermatica or seminalis.

The morbid influences of the retention of bile, urine, and carbonic acid gas are too well known to need dwelling upon; but in recent times the suggestion has been made that the body itself, or a particular organ, may become the source of a form of discrasia due to abnormal decomposition, which may be called autochthonous or autogenetic dyscrasia.

In former times such doctrines were current in the guise of speculations about putrefaction or fermentation of the blood, lymph, etc.; but it is only recently that they have received any support from facts. When it was shown that septicæmia might result from collections of pus or putrefying fluids in the body, and it was established that this putrefaction might occur independently of external agencies, this doctrine of autochthonous dyscrasia was placed beyond doubt. But pyæmia and septicæmia are not quite what we ordinarily mean by dyscrasia, this term being generally restricted to chronic diseases: but the statement originally made by Petters in 1857, and confirmed by Kaulich, Betz, and Cantani, that acetone is developed in the blood and fluids in diabetes and other diseases, has been in recent times fully established; and, as is generally known, a particular group of nervous phenomena, "diabetic coma," has been ascribed to the presence of acetone or allied substances in the blood.

In 1868 Senator described a case of sulphuretted hydrogen poisoning resulting from an error of diet, and pointed out that the digestive organs are the origin of nearly all acute and chronic dyscrasiæ, and that self-infection may occur, and is followed by a series of nervous disturbances. Even during the normal digestive processes, putrefactive products of a poisonous nature—phenol, indol, and the aromatic series—are developed, and Brieger has lately obtained a poisonous alkaloid from peptone; while in abnormal digestion there are such products as butyric acid, sulphuretted hydrogen, marsh-gas, etc. All these substances have a more or less poisonous influence on men and animals, causing (in large doses) convulsions, paralysis, coma, and death; in small doses, dulness, vertigo, dimness of sight, tinnitus, etc. While the nervous system suffers most evidently, it is not alone affected; the kidneys being also frequently involved. Most of these substances are secreted by the kidneys, and irritate them. Changes in the digestive system have a direct influence in causing renal disease, and a certain chronic affection with albuminuria, still ordinarily regarded as a local disease, in Senator's opinion originates in the digestive system, and is of an autochthonous dyscrasic nature. [The author is apparently alluding to the chronic insidious form of granular kidney.—REP.]

In diabetes the dyscrasia is undoubted, and is generally regarded as the cause of all the phenomena, except the excretion of sugar. This last is probably due to some alteration of the digestive functions in the stomach, intestines, or liver; so that we may call diabetes an autochthonous enterohepatogenous dyscrasia.

The uric acid diathesis, and gout, rickets, and many other conditions not so well defined, as, for example, oxaluria, also belong to this class.

But, besides the digestive organs, this self-infection may depend upon processes occurring in any of the normal or pathological cavities of the body; not only abscess cavities, lung cavities, and purulent collections in the thorax and abdomen, but especially the urinary bladder and passages.

In chronic cystitis, with ammoniacal decomposition of the urine, there gradually supervene dulness, depression, digestive disarrangements, "urinous" smell of the breath, and sweat, drowsiness, and coma. These phenomena have been attributed to the absorption of ammonia, and this "ammoniæmia" has been more or less identified with "uræmia." This is not the place to discuss the identity of ammoniæmia and uræmia. Ammonia is probably not the only or even the principal cause of this dyscrasia, though it is the body which, by its smell, makes its presence most noticeable, and doubtless has its origin in the decomposition of urea. But the decomposition of urea gives rise to various other products, such as the sulphur compounds, the ferments, etc., and in those cases where pus and mucus are undergoing decomposition, other putrefactive products are present in considerable quantities. The eminently poisonous nature of decomposed pus is well known, and is attributed to the presence of certain unstable fatty acids, *e. g.*, butyric. Trimethylamine must also be mentioned as a product of the decomposition of purulent urine in the bladder, for the production of which the leucithin of the pus affords abundant material.

Finally, it seems not impossible that such decompositions may take place not only in the natural and pathological cavities of the bodies, but in the parenchyma and in the fluids of the tissues, even as primary conditions; that they can do so in consequence of infection from other parts, is no longer doubtful. But there are grounds for believing that imperfect oxidation causes decomposition in the tissues. Hoppe-Seyler has said that insufficient introduction of oxygen, either from obstruction in the air-passages or from excessive demand for it through great muscular exercise, causes, generally in the liver, perhaps in other organs, changes similar to those of phosphorus poisoning, and in consequence an increased secretion of urea at the expense of the constituents of the organs. Leucin and tyrosin are found in the most different parts of the body, where the blood-supply is insufficient; and in this manner, when the blood-supply is not altogether cut off, the decomposition products of the part find their way into the circulation. The influence of imperfect blood-supply is seen in those cases of acute or subacute intoxication which occur in certain examples of pernicious anæmia.

The effects of these dyscrasiæ are mostly manifested by alterations in the functions of the nervous system—pains in the head, apathy, drowsiness, passing into coma, or restlessness and delirium, convulsions, vertigo, tinnitus, nausea, and vomiting. Kussmaul was the first to describe under the name "Diabetic Coma," a peculiar mode of termination of diabetes, which he attributed to "chemical decomposition of the blood, an intoxication which depended upon chemical destruction of the economy in diabetes." From the acetone-like odor of the breath, it seemed as if acetone was the toxic agent; but he pointed out how the cases differed from the acetonæmia described by Kaulich and Petters; and in experiments on animals he failed to produce, by acetone poisoning, symptoms very similar to those he had observed. Frerichs came to the same conclusion, and had no better results with ethyl diacetic acid; and hitherto all attempts have failed to determine the exact substances to which this intoxication is due. But Kussmaul's statements were amply confirmed, as such cases are by no means rare, especially in young subjects. It has been wrongly supposed that Kussmaul's description applies only to diabetes, and is always associated with urine giving a red reaction with ferric chloride. Both these positions are untenable, as the condition may be seen in other diseases than diabetes and apart from that reaction of the urine. Moreover, *coma* is not the most characteristic feature of Kussmaul's group of symptoms. It is the striking *dyspnœa with free respiratory movements and unobstructed air-passages*, and generally hurried respiration. Next to this, the most characteristic thing is the rapid pulse; then the excitement with groaning or sighing, jactitation, severe pains, and lastly coma. The temperature of the body is not notably increased, and in some cases has been below normal. No case of terminal coma, in which the peculiar breathing is not present, can be said to belong to this class.

It only remains to observe that Kussmaul's coma is a sign of bad prognosis, even worse than in diabetes, in which, although rarely, recovery from this condition has taken place.

The following propositions result from the foregoing considerations.

1. Acute and chronic dyscrasiæ may occur, not only by the retention of normal excretions, but by the resorption of substances found in the body by abnormal metamorphosis, as well as by the introduction of abnormally large quantities of normal substances.

2. The principal source of such autochthonous dyscrasiæ lies in anomalies of the digestive apparatus; next in diseases of the bladder and profound anæmia.

3. The results of such autochthonous dyscrasiæ manifest themselves principally in the nervous system and the kidneys.

4. Besides "uræmia," there are other acute nervous affections, of which that described by Kussmaul as "diabetic coma" is very characteristic, and the causes of which are to be sought in various toxic influences.

5. Kussmaul's group of symptoms may be met with in other grave diseases, besides diabetes mellitus, such as pernicious anæmia, and is not dependent upon the occurrence of the falsely so-called "acetone reaction" in the urine (red coloration with ferric chloride.)—*London Med. Record.*

A FEW THOUGHTS ON PUERPERAL SEPTICEMIA, ITS NATURE AND TREATMENT.—F. P. Atkinson, M.D., contributes the following to the *Practioner*:

Although puerperal septicemia is no longer the scourge it used to be, I suppose no medical man passes through his professional career without losing at least one case from this disorder; and it is important therefore we should know something definite with regard to its origin and also as to the best method of treatment. As regards its nature there is, and no doubt will be, a good deal of dispute, but I cannot help thinking it will eventually be found to arise either from the infection of erysipelas or the absorption of decomposing animal matter either generated within the uterus from the retention of pieces of placenta, membrane, or clots (the last named especially being the result of imperfect contraction), or conveyed by the nurse or medical attendant from without.

Some assert that it most frequently has its origin in the infection of scarlatina, but there are certainly some very strong facts to be brought forward in opposition to this idea.

1. Cases have over and over again been

reported where the parturient woman has been the subject of scarlatina, and the peculiar symptoms of puerperal septicemia have been entirely absent, and also where there have been cases of scarlatina, not only in the same house, but in the same room and even in the same bed with the parturient woman, without the occurrence of any ill effects.

2. I have been credibly informed by a medical man that he was once called away from a case of scarlatina he was watching to attend two cases of midwifery, and that neither of the lying-in women had any unfavorable symptoms afterwards.

3. I have also been told, and my informant is willing to swear to the fact, that one medical man attended three cases of confinement when his hands were freely peeling from scarlatina, and that not one of these cases had anything the matter subsequent to their confinement.

In spite of these facts, I believe that serious harm might result were pus from the ulcerating surface of the tonsils to come in contact with an abraded surface of the uterus or vagina.

In the treatment of this as of all other kinds of pyrexia it is important to inquire first of all as to the cause of the increased body-heat. In ordinary cold, bronchitis, pneumonia, etc., the prime cause is diminished heat-loss owing to suppression of perspiration, and as soon as the skin begins to resume its function, recovery at once begins to take place, but in septicemia the cause of the increased body-heat is increased chemical action, owing to the presence in the blood of a greater or less number of disease-germs, and the treatment has to be directed towards checking their growth and life. If this is successful, the cutaneous capillaries begin to dilate and the temperature gradually to fall. In some cases the skin perspires profusely and yet the body-heat remains persistently high, but this results from vaso-motor paralysis and is a symptom of very grave import. The medicines we have at command for checking the life of disease-germs are quinine, resorcin, kairine, salicine, carbolic acid, boracic acid, ether, etc. In the treatment of puerperal septicemia quinine is particularly useful, inasmuch as it is not only a strong germicide, but also produces a contractile effect on the uterus and prevents fresh absorption. It is a good plan to administer from two to three grains of quinine with five minims of the tincture of digitalis, and from three to five grains of resorcin alternately, every two hours.

If necessary to bring down the temperature rapidly, an ice-bag may be applied to the head and one to the spine, while the body may be sponged with vinegar and water. The uterus should be well syringed out with a solution of permanganate of potash (a drachm of Condy to the pint of water) three or four times daily, while the temperature remains high.

Plenty of good liquid nourishment should be given, and brandy must be administered according to the severity of the disease.

By the adoption of these means most cases may be led on to a favorable termination.

Pruritus at the Menopause.—The pruritis so often observed in women at the menopause, or change of life, is well known to be excessively rebellious to treatment, and the suffering caused by the affection, morally and physically, is often very serious. It is nothing uncommon to see women in the greatest prostration and despondency from the loss of sleep and appetite produced by an insupportable itching. The practitioner has often been disappointed at the little result obtained from the employment of remedies recommended by the greatest authorities, and both patient and attendant despair of success. Dr. Cheron highly recommends the following ointment where the pruritus is localized to axilla, the vulva or thighs, or the abdomen. He declares that if this pomade is applied morning and evening the affection will yield to its influence.

Veratrine, grs. iij.;
Axunge, " ℥j.

When the pruritus is general over the body, he advises the veratine to be given internally in pills.

Veratine, ⅓ gr.;
Liquorice powder, q.s.
For 40 pills. 2 to 6 a day.—*Med. Press.*

Site of the Thermic Centre.—Dr. Lemcke (*Deut. Archiv f. Klin. Med.*) describes a case of acute apoplectic bulbar paralysis in which there was a remarkable sinking of the temperature. A post-mortem examination showed that a hemorrhage had occurred in the medulla oblongata about three millimetres to the left of the middle line. Its length was about four millimetres extending from the middle of the olivary body to the point of the ala cinerea. At its lower end it lay a millimetre and a half beneath the floor of the fourth ventricle, at its upper end it was close under the floor. Its breadth was from one to one and a half millimetres. It lay outside of and above the nucleus of the vagus and to the inside of and rather below the superior nucleus of the auditory nerve.—*Practitioner.*

Pepsin and the Peptones in the Treatment of Diabetes.—Professor De Giovanni (*Gazz. Med. Ital. Prov. Venete*, Jan. 12, 1884) draws attention to the frequent utility of pepsin and peptones in the treatment of diabetes. He cites the following case: A young man, æt. twenty, was admitted, and gradually submitted to an exclusively meat diet and lactic acid. Even when all milk, starchy, and saccharine matter were entirely omitted, the urine was as abundant as before, and the quantity of sugar the same, and the patient did not become stronger. The thought occurred to Dr. De Giovanni that all the meat and eggs taken were not utilized in the organism. The bodily strength was not in proportion to the force of the foods, neither was the quantity of urea in the urine. The examination of the fæces showed a large quantity of meat, unaltered and scarcely masticated. The patient was then placed on ordinary diet, but with a certain quantity of pepsin and peptones, prepared according to the method of Prof. Lussana. (The stomach of a calf is cut in pieces, and placed in a litre of dry white wine; after eight days filter; the filtrate contains pepsin and peptones.) The patient quickly began to improve in general nutrition, and was able to get up; the quantity of sugar and of urine was lessened. On returning to the meat diet, the patient again became worse, and was again better on the substitution of the mixed diet, with pepsin and peptones. Continuing this diet, he so far recovered as to be able to leave the hospital, and a year afterward, though diabetic still, was in fair health. Prof. De Giovanni has found equal benefit in other cases from the same treatment, but not in all. He concludes that pepsin and the peptones (Lussana) constitute an element useful in completing the diet of the diabetic, when defective gastric function helps to exaggerate the effects of the disease on the general health.—*London Medical Record.*

SURGERY.

On Dislocations and Fractures.—A Lecture Delivered at the London Hospital, February 15, 1884, by Jonathan Hutchinson, F.R.C.S., F.R.S.

Mr. Hutchinson announced his intention in this lecture, of dealing, in the way of rapid survey, with the general principles involved in the recognition and treatment of dislocations and fractures; and of the first kind of injuries he especially insisted on the great importance attaching to their diagnosis by the practitioner. By the commission of errors in this respect, and by failing to appreciate the true nature of an injury involving dislocation of a limb, the surgeon is not unlikely to secure for himself a greater amount of discredit than would follow almost any mistake he could make in professional practice. Nor is it difficult to understand the reason for this, since by the permitted existence of dislocation for any considerable length of time, deformities may be set up, and discomfort to the patient thereby produced, which no attempt to cure will succeed in removing; but, as a general rule, all such consequences arise from the carelessness of the practitioner, who never ought, unless guilty of insufficient or incautious examination, to overlook any ordinary case of dislocation. In order, however, to prevent this untoward occurrence, it is well to bear in mind, and to call into use on every occasion, the fact that a dislocation comes under treatment of two safe rules, as follows:

1. Never examine a patient under these circumstances without stripping him and making accurate comparison of the two sides of the body, and

2. Should any doubt arise as to the existence of a dislocation after cursory examination, conducted according to Rule 1, then refuse to be satisfied until the patient has been put under the influence of an anæsthetic, and while in this condition subjected to every available test, with a view to absolute accuracy of diagnosis. Especially should this precaution be observed in the case of young patients, who naturally resist manipulation when awake, and with those who are unusually sensitive and restive under examination.

In many cases it will occur that instead of being simple, a dislocation will be complicated by the co-existence of a fracture along with it, whereby the difficulty connected with its diagnosis will be much increased, and in young children particularly, complications of this character are very frequently met with, dislocations of a simple nature being rare among them. In his own experience, Mr. Hutchinson declared he had never met with a simple dislocation of the shoulder joint in a child, but, on the other hand, he had seen numbers in which there had been separation of the upper epiphysis of the humerus, with consequent simulation of dislocation. In the wrist this form of injury does not occur, the hip being by far the most usual site of it, and in the case of children it is important to remember that when symptoms of dislocation are apparent they should be taken as affording indication of the occurrence of other injuries as well.

Among young children separation of the epiphysis of the long bones is a common accident, and it is not to be in any way regarded as a fracture either of anatomical or surgical neck. In consequence of the force required to produce complete displacement of the sundered parts being very great, this condition is, as a rule, replaced by one of incomplete displacement, which also the extensive surfaces of the disconnected portions of bone contribute to bring about — in the humerus, *e.g.* — in which, when so injured, a forward sliding of the bone takes place for a little distance, but the combination of this separation of the epiphysis and dislocations of the bone at the joint is one of those accidents which, in Mr. Hutchinson's experience, do not occur.

Special risks of danger, even to a fatal termination of the case, attend those examples of separation of the epiphysis in which irregular stripping away of the periosteum from the shaft of the bone occurs, the epiphyseal end adhering, and a periosteal sleeve, with muscular attachments being loosened from the subjacent bone. Museum specimens of this kind of injury are rare, notwithstanding they are not infrequent, but when produced they rapidly end in death. Suppuration, too, which in fractures of bone rarely occurs, may attend the separation of epiphyses, being in such case due to the separation of the periosteum.

In adults dislocation of both bones of the forearm at the elbow joint is not uncommon, but among children it is exceedingly so; in this class of patients that form of injury which is described as a dislocation of such nature consists in the clean separation of the epiphyses, which is encouraged in the elbow-joint by the profusion of ossifying centres found in that region, and which, when it is seen, is usually said to be a dislocation backwards. The amount of displacement produced by such an accident depends on the position assumed by the bones affected in relation to the joint, and the possibility of the confusing appearances that may be seen ought to be an effectual guard against the issue of a hasty or unwarranted utterance respecting the absence of any fracture. The ease with which the displacement of the epiphyses can take place in children is the main reason why so-called dislocations of the elbow joint are so commonly seen in them, and the factor is found in the low position of the coronoid process, the principal opponent to backward dislocation in young subjects. This process is, indeed, practically an epiphyses itself at this age, being of soft, yielding structure, and being easily broken down.

In treatment of separation of the epiphysis at the elbow in children, the plan most successfully practiced is that of fixation on a moulded splint adjusted to the back of the limb, which is to be bent into a position in which the forearm is at right angles to the upper part of the limb. The splint is to extend high up the arm, and in fastening it strapping should be employed, a pad being so adjusted as to bring steady pressure on the upper part of the humerus. All the steps of the operation should be carried on while the patient is completely under the influence of an anæsthetic, the free and invariable use of which was strongly advocated by the lecturer in these cases. The pressure, moreover, thus applied to the lower end of the humerus, must be considerable in order to secure the desired result, and should not be omitted on account of the swelling which in some cases will be found present to some extent, being occasioned by the tearing injury inflicted on the periosteum. In a recent case seen by Mr. Hutchinson, neglect of these precautionary details had resulted in ankylosis of the joint, and it is desirable that the practitioner should always be guarded in his prognosis of a recovery without stiffness of the elbow in all such cases. In separation of the lower epiphysis of the radius, it is common for a mistaken diagnosis to be made, the injury under such circumstances being assigned as dislocation of the wrist joint. one of the best examples of the condition so produced is to be found in a preparation in the London Hospital Museum, and it is highly important to recognize the nature of the lesion whenever it occurs. As a rule, there is only an incomplete displacement of the epiphysis, but one case at least is on record in which the part was entirely separated. The disunited parts should be placed in apposition, under an anæsthetic, as a first step toward treatment, and then the limb should be put up in the ordinary way.

In proof of the infrequent occurrence of dislocation of the wrist, Mr. Hutchinson said he had never seen a case himself, and those injuries which were described as such dislocations invariably turned out to be, in the young, separation of the epiphysis, and in the adult, fracture. Likewise he questioned the existence of the so-called subglenoid dislocation at the shoulder, and in every case he had examined with a view to testing the existence of such a deformity he found it to be one of subcoracoid dislocation, the certainity of which can be made clear by resort to accurate measurement, by which means the absence of any lengthening of the limb, a condition which must necessarily occur to the extent of one and a half or two inches in subglenoid dislocation, is at once rendered apparent. To Professor Flower is due the credit of drawing attention to the facts here explained, and which imply that what has been called subglenoid is in reality subcoracoid dislocation. Dr. Howe had also, previously to Flower's observations, noticed that lengthening must necessarily follow on subglenoid dislocation; but in spite of all the correction the error received, a well-known manual of surgery continues in its latest edition to perpetuate it, and by means of illustrations depicts the two forms of displacement, showing the limbs as being of equal length in both forms of injury.

Among children, displacements of the elbow way be treated with very favorable prospects of obtaining good results, but the case is very different when the patient is advanced in years, for although in them reduction may be completely effected without fracture, still there is ever present danger of subsequent development of chronic rheumatic arthritis in the joint, this being an almost invariable sequel in such cases. Different opinions, however, have been expressed respecting the order in which the two events occur, whether, that is, the dislocation is primary, but the lecturer decidedly averred that there can be no question that such is the fact. In consequence, therefore, of the extreme probability of future occurrence of rheumatic arthritis in the majority of elderly patients who come under treatment for displaced elbow, it is incumbent upon the surgeon to speak with the greatest caution when called upon to give promise of a useful limb, the chances of any result of this kind being very small in comparison with the almost certain probality of permanent arthritic mischief setting in.

Fractures are grouped under two heads, viz.:

A. Fractures with displacement.

B. Fractures without displacement.

In connection with these injuries it must be remembered that, though occurring in the same bone, and bearing the same distinctive name, *e.g.*, Potts' or Colles' fractures, still a very great amount of diversity may be exhibited by them, and it must not be expected that any two examples of the same variety of fracture will be exactly similar in all respects.

As in cases of separation of epiphysis, so in fractures, the nearer the injury is to the joint extremity of the bone, the greater probability there will be that displacement of the fragments will only partially ensue. Impaction of the pieces may occur, and as a result it often happens that the favorable position assumed on recovery is due, not to the surgeon's skillful treatment, but to the accidental fixation of the fragments of bone at the time when the injury has been received. For this reason it is advisable to avoid hurry in placing retentive apparatus around the limb under such circumstances, for it is quite possible to set up a great deal of harm by the injudicious application of pressure in this way. In his own practice, Mr. Hutchinson said he had often treated Colles' fracture of the wrist without employing any kind of splint whatever, and he urged the necessity of carefully considering the needs of each case separately, and then to treat it in accordance with the requirements it possesses.

In the majority of cases of Colles's fractures but a small amount of displacement is found to exist, but exceptional instances do occur in which the reverse condition obtains, and such cases present difficulties in the way of treatment. Some years ago Mr. Hutchinson dissected many examples of this form of fracture, and he had come across none in which any great amount of displacement existed, and in some cases, though crepitus could be felt, it was not until the periosteum was removed that actual evidence of displacement could be obtained.

Complete reduction is imperatively requisite when displacement accompanies fracture; and in all such cases it is very much wiser to bring the patient under the influence of an anæsthetic before commencing to restore its contour to the distorted limb. This proceeding is the more desirable also on account of the absolute safety with which anæsthetics can now be administered; and aided by this means of assistance, the surgeon should not rest contented until his efforts are rewarded by perfect restoration of its lost symmetry to the injured parts, except, of course, in cases where an extreme degree of impaction renders any such occurrence impossible.

Once the fragments have been restored to their proper place, however, there is no tendency in them to resume the vicious position assumed as a result of fracture; and hence necessity for confining the limb in a splint apparatus will not exist. This method of treatment will be demanded in a certain number of instances, being those which form exceptions to the general rule just laid down; but Mr. Hutchinson considers that quite 4-5ths of the fractures of limbs can be most satisfactorily treated without applying any splint whatever, the harm caused by which through pressure far exceeds the benefit conferred. Whenever they are employed, the simpler the kind of splint that is used the better will be the result, the straight form being the best possible, admitting of free extension, and being also easily retained in place. Fourteen days should, Mr. Hutchinson urged, be the maximum time during which, if it must be applied, a splint should be allowed to remain, as otherwise there arises much danger of rheumatic stiffening of the joint.

As a commentary on the futility of inventing complicated splints and apparatus for fixing fractured limbs, none of which have ever received general approval, the lecturer referred to an ingenious instrument devised by Dr. Gordon, of Belfast, after long-continued anatomical study of Colles' fractures. This, which was intended for general use among surgeons, is figured, said Mr. Hutchinson, in a text-book by a leading surgeon, *upside down;* and assuming from this that even the author of the work is practically unacquainted with the splint, although he writes about it, what chance is there of its ever being universally adopted?

Not only Colles', but all fractures, are most successfully treated by extension, which can readily be made through the agency of the simple straight splint. Very thick pads should be fitted to the splint, and in ordering from instrument makers it is necessary to insist on this especially, particularly with regard to splints for treatment of fractured femur. Finally, on this subject of splints, Mr. Hutchinson declared that he had seen many more instances of bad union follow the use of modern improved apparatus than ever were witnessed under the old plan of fractures by the straight splint.

Fractures of the neck of the femur occur in a great variety of forms, and it is an unfortunate conventionality which divides them into extra and into intra-capsular fractures as though the bone was always broken straight across either in or outside the capsule of the joint. As a matter of fact, examination of numerous specimens showed this to be an occurrence of great rarity, and the varieties assumed are very considerable. Thus the great trochanter may be broken across, or both trochanter, and the fracture itself may be partly without the capsule. When great deformity exists, however, the existence of extra-capsular fracture may be suspected, and on grasping both hips if there is found greater thickness on the injured side it may be taken as certain that the fracture is at any rate not entirely in the capsule. In all cases of this class of fracture, whether so called extra or intra-capsular, union by bone should be the surgeon's principal aim; and such a result may, in Mr. Hutchinson's opinion, be expected.

THE MICRO-ORGANISM OF OSTEOMYELITIS.—Dr. Rosenbach (*Centralbl. f. Chir.*) has just published an account of his researches into the micro-organisms of osteomyelitis. Assuming that the specific microbe was to be found in company with those causing putrefaction, and with a view to ascertain whether they could give rise to a local ostitis without the occurrence of previous local injury, he began by introducing the microbe of lactic acid fermentation into the auricular vein of a rabbit, and found that no result occurred unless there was previous local injury of the bone. But necrosis and acute osteomyelitis were at once produced if such local injury existed. However, as the same result was attained by the introduction of any other septic material, and moreover, the microbe of the osteomyelitic pus failed to produce lactic fermentation under suitable conditions, it was considered that there was no causal connexion between the disease and this peculiar microbe. The author has obtained by cultivation of osteomyelitic micrococci on nutritive gelatine an orange-colored or reddish microbe, which finally caused liquefaction of the gelatine, but had no such effect upon sterilized fibrin and peptone cultivation fluid. This micrococcus was characterized by a staphyloid arrangement of the individual cells. Is this micrococcus a specific excitant of osteomyelitis? If so, then osteomyelitis will be produced without previous lesion of bone. In animals it does not excite osteomyelitis, but it does cause death with the usual septic lesions. Further, the orange-colored staphyloid micrococcus has been produced by culture from the following sources, viz., abscess of lymphatic gland following on eczema capitis, in thirty-five cases; from subcutaneous and deep abscesses, in seventeen cases (five cases of empyema, two cases of boils, five cases of pyemia, five cases of septicemia); and from fourteen cases of osteomyelitis. In another case it was combined with a micrococcus of similar arrangement, but lighter in color, which he called *Staphylcoccus pyogenes albus*. Rosenbach has further shown that this micrococcus produces violent phlegmonous inflammation when introduced beneath the skin. In fifteen cases of fracture, osteomyelitis was produced in eleven cases by the subcutaneous injection of this micrococcus. The author is led to the conclusion that there is nothing specific in the characters of his orange micrococcus or *Staphylococcus pyogenes aureus*. Becker (*Deutsche Med. Wochenschrift*, 1883, No. 46) gives, as a further character of this orange-colored micrococcus, the presence of a peculiar odor, resembling that of spoilt dough, and produced by exposure to the air. He never saw osteomyelitis produced by this micrococcus without previous local injury of bone.—*Practitioner*.

THE DIRECT TREATMENT OF SPINAL CARIES BY OPERATION.—Mr. Fred. Treves, in a paper read before the Royal Medical and Chirurgical Society (*Brit. Medical Journal*, January, 1884, p. 58), proposes an operation, by which the anterior surfaces of the bodies of all the lumbar vertebræ, and also some of the dorsal, could be reached from the loin; so that, in cases of spinal caries, the morbid products, arising from the diseased bone, could be prevented from travelling a long distance before an incision is made to evacuate them. A vertical incision near the outer edge of the erector spinæ, through the sheath of that muscle and the quadratus lumborum, then through the psoas muscle, will reach the bodies of the vertebra, so that they can be examined, and carious or necrosed bone removed, as well as affording direct exit to all morbid products. The author detailed three cases in which he had performed this operation with good results. A long discussion followed the reading of the paper, in which Mr. Furneaux Jordan and Mr. Noble Smith advocated mechanical fixing of the spine, a practice strongly protested against by the author.—*London Med. Record*.

A NEW METHOD OF REMOVING NASAL POLYPI.—In the *Canada Medical Record*, February, 1884, Dr. William Ralph Bell says: "I take the liberty of bringing the mode of treatment before the notice of your readers, which I have practiced, with the very best results, in several cases. It obviates any trouble from hemorrhage, which is frequently the case when the forceps or hook is used; it is painless, and very simple. I get my patient to blow strongly through the affected nostril, closing the other with his finger. The polypus will be brought down so that it can be easily seen through the external nares; then with my hypodermic syringe charged with a solution of tannic acid in water (of the strength of twenty grains to the fluid drachm), I pierce the polypus with the needle, and inject ten, fifteen, or twenty minims of solution, according to size of tumor. In a few days the polypus shrivels and dries up (tanned); it comes away without any trouble or pain, and looks like a clot of dry blood, my patients usually removing it by blowing the nose, or by their fingers. In only one case, that of an old lady, had I occasion to remove it myself, and in her case I think she was afraid to do so, for when I seized it with dressing-forceps I was required to make no traction to bring it away."—*Med. and Surg. Reporter.*

Two Cases of Death after Extraction of Teeth.—In the *Vratch*, No. 34, p. 523, Dr. V. M. Zakharevitch details the cases of two strong and generally healthy medical men, aged 26 and 24, who died, one on the sixth and the other on the tenth day after extraction of teeth. In each of the patients the left inferior second molar tooth was removed. In one of the cases, osteomyelitis, and in the other, osteitis and periostitis, of the lower jaw developed, all the symptoms being unusually severe. The author believes that the inflammation from its onset was of a septic character, the wound being septically poisoned by the dentists having employed unclean instruments. In view of these two exceedingly sad cases, Dr. Zakharevitch strongly insists on the necessity of strict antiseptic precautions in tooth-extraction. He makes his patients, before the operation, carefully cleanse their teeth by means of a brush with plenty of soap, and wash out the mouth with one or two per cent. carbolic solution. The carbolic washing is repeated after extraction. When the bleeding is arrested, he powders the wounded alveolus with iodoform, puts into its cavity a small plug of wadding, sprinkled also with iodoform, and seals the socket with collodium. All the instruments employed are disinfected both before and after the operation. —*London Medical Record.*

Transplantation of Healthy Skin in Lupus.—Hahn (*Monaish. für Prakt. Derm.*, No. 9, 1883), has scraped out lupus-tissue and transplanted healthy skin to the fresh wound in five cases, with good results. The patients were anæsthetized, and after the scraping was finished and the bleeding arrested (which sometimes did not occur until after several hours), the whole wound was covered by portions of skin about half a centimétre long and a quarter centimétre broad, the portions consisting only of cutis and epidermis. Under iodoform bandage, complete union of the transplanted portions occurred mostly in from five to eight days. A year had elapsed since the treatment of the first case, the cure being so far permanent, and no relapse having occurred.—*Med. and Surg. Reporter.*

MISCELLANY.

Physical Endurance Under Total Abstinence Principles. — Never in the history of the Temperance movement has the value of abstinence from alcohol and other artificial aids been so signally demonstrated as during the past four months. when, without any preliminary training, the pedestrian, Weston, has, for one hundred consecutive days (excluding Sundays and Christmas day) walked 50 miles a day, until, on March 15, he completed the number—5,000—which he had undertaken to accomplish in the time specified. Feats of strength and skill have indeed been performed by abstainers and others — feats requiring great force of muscle and steadiness of nerve — some, too, requiring great powers of endurance, but all pale into absolute insignificance by the side of the splendid effort just brought to so triumphant a termination. The ancients were wont to point to the pyramids of Egypt, the Ephesian temple of Diana, the mausoleum of Artemisia, the walls and hanging gardens of Babylon, the Colossus at Rhodes, the watchtower at Alexandria, and the statue of Jupiter Olympus, as the seven wonders of the world, and surely we, in our day, may offer to those who talk of the physical degeneracy of the human race this unique example to the contrary — an example worthy to be chronicled as an *additional* world wonder.

The accomplishment of Weston's undertaking has proved to what capacity for *sustained endurance* the human frame, allowed by temperance in all things, and from abstinance from alcohol in particular, to attain its maximum of development may be brought. It is not as if, according to the capability of the hour, seventy or any other number of miles were covered in one day, and the remainder in another, but the steady effort of walking just fifty miles a day, accomplished, with the regularity, as it were, of clockwork, that is so remarkable.

Fair weather or foul, in sunshine or rain, in tempest or in calm, under every possible form of sky in our ever varying climate, Weston sallied forth, accompanied by an officer of the Royal Navy and a representative of the press, both mounted on bicycles, and completed his fifty miles (sometimes more, but never less), now on the public road, and now in a prepared enclosure, and at the close of each day's work, delivered with unbated energy an address of twenty minutes' duration, on temperance.

During the final week, when the walking took place in London, at the Victoria Coffee Palace, a complete and exhaustive series of observations were made by Dr. Edwin C. Green, a very promising young medical officer, who has just been appointed house-surgeon to the Derby Infirmary, delegated by the Medical Temperance Association for that purpose. The sphygmograph, clinical thermometer, dynamometer, and spirometer were all made to contribute their valuable revelations. The food and excreta were weighed, as was Weston himself—his weight being taken and after each day's walk. The urine, in view to the amount of urea, phosphates, etc., being estimated, was sent daily to that accomplished analyst, Mr. A. Wynter Blyth. The results will be published in detail in due course; but it may here be stated that they were in the main eminently satisfactory. The vital capacity was not, perhaps, quite so great as we were prepared for, and the grip—a matter of little moment, however, in such an undertaking—was what might have been expected from the pedestrian's comparatively slight physique. But the clinical thermometor and the sphygmograph proclaimed that the temperature and the pulse—both unerring indicators of abnormal states of health—were perfectly natural; indeed, the tracings with the former—one of Dudgeon's beautiful little instruments—were typical of the most perfect health. Weston's average rate of walking was over four miles an hour; but he usually raised the figure to six when finishing his final mile for the day. His 4,999th mile was completed in gallant style amidst the vociferous cheers of the crowd of sympathising spectators, in nine minute and seventeen seconds, or at the rate of about 6·70 miles an hour. When the pedestrian set out on his tour from the Palace Chambers, Bridge Street, Westminster on the 21st of November last, at midnight, he was suffering from a severe cold, and was strongly advised to wait till he was well; but he determined to make the start on the day that had been fixed, feeling confident that if he could tide over the first week and month, all would be well, a confidence which has been abundantly justified, for as a matter of fact, Weston improved in health and condition as he drew toward the conclusion of his tour, and so thoroughly *fit* did he evidently feel on its completion that he stated his readiness to walk on the following Monday to Brighton and back, a distance of 106 miles, without a rest, if some generous philanthropist would give £500 to the Police Orphanage, he himself contributing £50.

The feat, as we have said, is a very great victory for the apostles of total abstinence from alcohol, although it would be absurd to contend that because Weston accomplished this extraordinary feat any one could do it. As Dr. Richardson and Dr. Norman Kerr truly remarked in their speeches on Saturday, a man may daily take so small an amount in, say some light beer, as to practically be of no effect, one way or the other, but when he resorts to it as a promoter of strength or sustained physical effort, and takes a quantity such as he believes is necessary for that purpose, it is *then* that he will discover his error. Herein lies the value of the present enterprising undertaking.—*Medical Press.*

Legislation for the Marine Hospital Service.—The ship owners and sailors have had bills introduced into Congress repealing the tax upon sailors for the support the Marine Hospital Service, and ordering that the same be supported by the Government. We would like to see the tax and hospitals both abolished. This entire service is an anomaly in our plan of government. There is no more reason why there should be a series of hospitals for the care of sailors, supported by the government, than that the government should have hospitals supporting railroad men, or the factory operators or any other class of laboring people. Since the government does not do this for all classes we object to any discrimination in favor of any class. We already have a navy medical service, to care for all the sick sailors in the service of the government. This suffices. Were it needful for the government to extend aid to any class on the water, it were best done by this service. But there is no need whatever. The sailor would be better cared for and be trained to make a better citizen if he were treated like all other classes of citizens. This matter is one of importance, but it will scarcely receive the attention it demands while the government department to which it belongs deems it of such value in enabling it to exert a powerful influence toward the accomplishment of its purposes. In short, so long as it has so large a patronage at its disposal it will have vigorous defenders, for who will not fight for his bread and butter, and find weapons for offense and defense? The reform in this matter must come from those whose interests are not interfered with by the abolition of this service.—*Detroit Lancet.*

THE GARFIELD MEMORIAL HOSPITAL.—The Board of Directors hope to open this hospital in May. The medical and surgical staff has been formed as follows:

Consulting Surgeons.— Drs. Fred. May and N. S. Lincoln.

Consulting Physicians.—Drs. W. W. Johnston, J. Taber Johnson, and A. Y. P. Garnett.

Attending Surgeons.—Drs. C. E. Hagner and J. H. W. Lovejoy.

Ophthalmologist and Otologist.—Dr. Swan M. Burnett.—*Med. and Surg. Reporter.*

THE AMERICAN MEDICAL ASSOCIATION. —*Section of Practice of Medicine,* Dr. John V. Shoemaker, of Philadelphia, Pa., *Chairman,* Dr. W. C. Wile, of Sandy Hook, Conn., *Secretary.*

The Chairman submits the official programme for the meetings of the Section of Practice of Medicine, to be held in Washington, D. C., Tuesday, Wednesday, and Thursday afternoons, May 6th, 7th, and 8th, 1884. The following special subjects have been promised, and those who are announced to enter into the discussions have accepted, and will be present.

1. Discussion on "A Contribution to the Clinical Study of Epilepsy," will be opened by Professor William Pepper, of Pennsylvania. Dr. Roberts Bartholow, Pa.; Dr. Horatio C. Wood, Pa.; Dr. J. S. Jewell, Ill.; Dr. James T. Whittaker, Ohio; Dr. O. P. Hooper, Ark.; Dr. Eugene Grissom, N. C.; Dr. James E. Reeves, W. Va.; Dr. T. B. Lester, Kansas; Dr. Joseph P. Logan, Ga.; Dr. W. K. Bowling, Tenn.; Dr. John S. Moore, Mo.; Dr. James F. Hibbard, Ind.; Dr. J. J. Caldwell, Md.; Dr. John A. Murphy, Ohio, and Dr. A. P. Grinnell, Vt., are expected to take part.

2. A discussion on the "Clinical Study of the Heart Sounds," will be opened by Professor Austin Flint, Sr., New York. Dr. Edward Janeway, N. Y.; Dr. William Pepper, Pa.; Dr. Frederick C. Shattuck, Mass.; Dr. John H. Bemiss, La.; Dr. James Wilson, Pa.; Dr. Richard McSherry, Md.; Dr. James R. Leaming, N. Y.; Dr. John S. Lynch, Md.; and Dr. A. A. Palmer, Mich., are expected to take part.

3. A discussion on "Tuberculosis" will be opened by Dr. Henry F. Formad, of Pennsylvania. Dr. Austin Flint Sr., N. Y.; Dr. William Welch, N. Y.; Dr. N. S. Davis, Ill.; Dr. George M. Sternberg, U. S. A.; Dr. R. S. Fitz, Mass.; Dr. Henry O. Marcy, Mass.; Dr. James Tyson, Pa.; Dr. Edward Janeway, N. Y.; Dr. Charles Dennison, Col.; Dr. Henry F. Campbell, Ga.; Dr. W. T. Belfield, Ill.; Dr. Alonzo Garcelon, Me.; Dr. E. O. Shakespeare, Pa.; Dr. G. C. Smythe, Ind.; Dr. Harold C. Ernst, Mass.; Dr. W. E. Geddings, S. C.; Dr. Trail Green, Pa.; and Dr. John Lynch, Md., will take part.

The following papers also promised:—

Ayers, S. G., M. D., New Theory and Instrument of Diagnosis.

Bartholow, Roberts, M.D., subject to be announced later.

Crawford, S. K., M.D., Etiology of Enteric Fever.

Duhring, Louis A., M.D., Dermatitis Herpetiformis.

Flint, Austin, Jr., M.D., Dietetic Treatment of Diabetis Mellitus.

Green, Trail, M.D., The New Officinal Chlorate.

Griswold, Casper, M.D., Irregular Apoplectic Attacks from Other Causes than Hemorrhage and Embolism.

Janeway, Edwards, M.D., Stimulation of Pathognomonic Signs and Symptoms.

Jackson, S. K., M.D., Typhoid Fever.

Keyt, A. T., M.D., Retardation of the Pulse in Mitral Insufficiency.

Linn, G. A., M.D., Specific Treatment of Diphtheria and Croup.

Marcy, Alexander Jr., M.D., Muscular Hypertrophy of the Stomach.

Marcy, Henry O., M.D., The Germ-Theory of Disease.

Miller, J. P., M.D., Phthisis, its Successful Treatment.

Prentiss, D. W., M.D., 1. Importance of Uniformity in the Pharmacopœia. 2. A Plea for Greater Interest in the Pharmacopœia on the part of Physicians.

Reed, R. Harvey, M.D., Irritation of the Capsule of Glisson.

Schenck, W. L., M.D., Occult causes of Disease.

Tyson, James, M.D., The Milk Treatment of Disease.

Welch, Wm. H., M.D., Pathology of Myocarditis.

Whittaker, James, T., M.D., The Etiology of Pericarditis.

Wilson, James, M.D., The Diagnosis of Tumors of the Anterior Mediastinum.

Accepted and approved by the Chairman of the Committee of Arrangements.

A. Y. P. GARNETT, M.D.

Washington, D. C., April 2, 1884.

POLICE SURGEONS.—The Mayor of Philadelphia has appointed a police surgeon (Dr. Morris S. French), who will in turn appoint a corps of assistants, one for each police district in the city, whose duty it will be to respond to all sick calls from each particular station house. It is proposed by the Mayor to establish a system of physical examination of all applicants for positions on the police force, and the requirements which Dr. French has formulated are of a sufficiently stringent character to insure to this large city a very efficient police force, which is one of the most essential, and at the same time one of the most neglected features of our various municipal governments.

If our new Mayor does nothing else during his administration, he will be entitled to the gratitude of all good citizens for having inaugurated a most praiseworthy and commendable reform in our police department. — *Phil. Medical and Surgical Reporter*, April 12.

Our readers will recognize in the above item the name of our Philadelphia correspondent. Dr. French will accept our congratulations. We know the Doctor is equal to the occasion and that he will reflect credit on himself and his profession.

PERPETUAL INJUNCTION.—In the U. S. Circuit Court in Maryland, it was, on the 10th of March, 1884, adjudged and decreed that a perpetual injunction be issued against Louis E. Wetter, and eighteen others, restraining them from imitating the labels of the Rumford Chemical Works, manufacturers of Horsford's Baking Powder, and also from using their old bottles.

The defendants were required to bring into court all fraudulent labels, and all imitation powder, for destruction.

It was decreed that the Rumford Chemical Works be entitled to receive the profits which have been diverted from it by reason of the infringement, and the defendants were ordered to pay all costs.

Thus is another victory scored for the Rumford Chemical Works, who, not long since, caused several parties to be heavily fined for violating the injunction of the Supreme Court restraining all persons from offering for sale "Acid Phosphate" (so called) in any package which shall be a substantial or colorable imitation of Horsford's Acid Phosphate.

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CORRESPONDENCE FROM PHYSICIANS PROMPTLY ANSWERED.

Original Articles.

THE FREQUENT REPETITION OF DOSES.

By **Frank Warner**, M.D., Columbus, O.

The question of the repetition of doses often is of considerable importance to the practitioner of medicine, and, one too, which I think is looked upon with too little regard of its importance. The therapeutical effects of many drugs is so evanescent, that, where we wish to procure a continuous effect, we must look to it that sufficient time does not elapse between doses to have allowed the influence of the previous dose to have entirely ceased.

In the night sweats of phthisis, atropia will be found very much more effective administered in small but frequently repeated doses than by a single large dose at bedtime. During a long continued and extensive hospital service we had ample opportunity of testing the reliability of this statement. While, in many cases, the one-sixtieth of a grain of atropia sulphate administered at bedtime was sufficient to control the colliquitive nocturnal sweats, yet we occasionally increased the dose to one-fortieth of a grain. In these same cases, on other occasions, we tried $\frac{1}{120}$ grain every four hours to much better advantage. Administered in this way the atropia not only relieves the exhaustive sweating, but, also acts very favorably in relieving to a certain extent cough, pain, excessive pulmonic secretion, and seems to exert a somewhat favorable influence over the course of the disease.

In nocturnal incontinence, depending upon a morbid sensibility of the mucous membrane of the bladder, or a paresis of the *sphincter vesicæ*, frequently repeated small doses of atropia will relieve the incontinence, when the same medicine would fail if given in a single large dose at bedtime; $\frac{1}{200}$ grain should be given to children five or six times a day.

In several cases we have used small and frequently repeated doses of aloes for the removal of *pin worms*, with complete success, after having failed in a few cases by treating with rectal injections of quassia solution. It would seem that in some cases, which apparently yield to rectal injections, but in the course of a fortnight the troublesome little parasite returns, the worms in the colon were undisturbed and only those in the rectum destroyed. Then, too, by giving only an occasional purge of aloes, the parasite is removed to-day but the eggs clinging to the mucous membrane of the colon or rectum are hatched out to-morrow, and they become just as annoying as ever. If the aloes be administered in the form of tincture, in half-teaspoonful doses every four hours, or a corresponding dose of the solid extract in pill form, and kept up for one week to ten days, and not only the pin worms will be destroyed but the eggs likewise and the annoying affection will be at an end.

We recently treated a case in which the patient had experienced the annoying sensation of a dribling of urine for half an hour after its passage. The patient was a male, thirty years of age, and a hard working mechanic. Eighteen months previous to his application to us for treatment, he had suffered from an attack of gonorrhœa, which subsided completely after eight weeks' duration. He was always enabled to make a full stream in urinating, and was not required to make his water more frequently than the average person; but, from that time, he always experienced difficulty after urinating in retaining the few drops that were inclined to pass. This was more especially the case when the patient was actively engaged at his duties, for on days when he was idle little difficulty was experienced. A careful examination of the urethra with a large bougie showed the absence of any stricture of the canal. Repeated examinations showed the urine to be only slightly acid, and that he passed, on the average, three pints a day. The urine was likewise characterized by the absence of albumen, sugar, casts, etc.; its specific gravity averaged 121. Our diagnosis was a lack of tone in the sphincter vesicæ, and we placed the patient upon strychniæ sulph., gr. 1-100th every three hours, and, to our gratification, after a continuation of this medication for two weeks, he made satisfactory improvement and in three weeks was quite cured.

I might go on to cite many cases which seem to do better under the frequent repetition of small doses than by occasional large doses; but would not argue that this method is universally preferable to giving large and infrequent doses. If we wish to procure the antipyretic effect of quinia, we must, of course, administer large and infrequent doses. In giving tonics, likewise, probably there is no advantage in deviating from the plan ordinarily followed in such cases, but I would urge upon your readers the importance of trying, in the class of cases which I have mentioned, the frequent repetition of small doses.

MITRAL LESION WITH ITS ATTENDANT PATHOLOGICAL PHENOMENA.

CASE OCCURRING AT ST. MARY' HOSPITAL, EVANSVILLE, IND.

Service of A. M. HAYDEN M.D., Professor of Diseases of the Genito-Urinary System in Hospital Medical College, and Visiting Physician to St Mary's Hospital.

[Reported by R. H. GRUBE, Interne at St. Mary's Hospital.]

Ben. W., age forty-five years, colored. Admitted January 15, 1884. The patient was a lithe, short, muscular fellow, and boasted of once having been a champion in athletic sports, such as running, jumping, etc. He began about six months previous to entrance to notice swelling of the legs and general failure of health. At the time of his admission there was marked œdema of the whole body below the nipples; considerable dyspnœa; pain in the abdomen; circulation feeble and irregular with a pulsating area under the left clavicle, which aroused suspicion of an aneurism, but on careful examination was pronounced to be venous. The urine was nearly normal, being lessened in quantity and loaded with urates, but no albumen or casts. Stools offensive and colorless. The œdema of the abdominal and thoracic parietes was so great as to prevent an accurate physical diagnosis of the viscera. There was nothing abnormal about the heart sounds except a faint mitral murmur which could scarcely be heard. For these reasons a positive diagnosis was not made, but treatment was directed to the relief of the most prominent symptoms. The bowels were kept open with elaterin; digitalis was given to keep up the circulation; iron and other tonics were given to keep up the general strength. Notwithstanding this the patient gradually became worse, though rendered much easier by the treatment. The dyspnœa increased, the pain had to be relieved by opiates and the patient died March 10th.

The autopsy in this case was the most instructive part about it. The heart was enlarged to nearly double its natural size. The mitral valve was thickened and almost cartilaginous, though there was no stenosis. The edges were uneven and did not come together accurately. The right lung was completely carnified and was not as large as a person's fist. The right half of the thorax was filled with serum. The left lung was partly œdematous. The liver presented on section the appearance known as nutmeg liver. The spleen and kidneys were congested and the veins of the mesentery were enlarged and tortuous, as were also those of the omentum, which showed signs of a low grade of inflammation.

Here then we have a complicated set of grave symptoms following and all dependent upon a lesion of one of the heart's valves. Insufficient closure of the mitral valve permitted regurgitation into the pulmonary vein. To keep up the circulation hypertrophy of the left ventricle followed. The great left ventricle, reinforced by this new force, propels the blood both ways, damming it back into the lungs, and back of them into the right ventricle, which in turn became hypertrophied, and with it obstruction of the portal system, causing "nutmeg liver" and the accompanying group of interesting pathological conditions.

The smoothness of the edges of the valves accounted for the absence of a marked regurgitant sound. What should lead to this thickening it is impossible to say, possibly over-exertion in his athletic sports.

Correspondence.

MEDICAL PRACTICE IN PERSIA.

FROM A MEDICAL MISSIONARY.

Editors Lancet and Clinic:

While I would not claim for the medical practitioner in Persia any greater hardships than fall to the lot of his American brother, I must claim for him his full share of those common to all, and a somewhat varied complement of others peculiar to the Orient. We have, it is true, many, if not most of the diseases found at home, but even these assume occasionally very different features, and at times require very different medication.

But much greater than the difference in the manifestations of disease is the difference in the constitution, as well as in the manners and customs of the people. The natives are a rude, barbarous race and, the lower classes especially, are exceedingly treacherous. It is unsafe for one to ride only a few miles into the country unless attended by a guard or well armed and mounted on a fleet horse. Only a few days ago while returning from a professional visit of four miles into the country, accompanied only by my mirza (or servant), the latter was set upon and severely beaten by one of a company of saiids, the privileged class ("sons of Mahommed, etc."). The only cause of offense was that my servant had refused him admission to my office, after the hours for consultation—a great indignity, as he thought, to one of his class. Fortunately, the punishment for offenses is severe. The saiid has disappeared, and report of the occurrence having reached the authorities, his house has been seized. It will be leveled to the ground and his goods confiscated.

Persian food is very poor, indigestible stuff, and the natives show no discretion whatever in what they put into their stomachs. As a result, they suffer greatly from dyspepsia, and their intestines become exceedingly "atonic." Many old cases give me much trouble, but I find the tincture of nux vomica the most serviceable drug I can employ. The greatest difficulty I meet with is in prescribing a fixed diet. With them all food is divided into two classes, it is either "heating" or "cooling," and this classification is arbitrary and is adhered to with as much confidence as though it were infallible.

There is no such thing here as "the dark science of medicine." It is clear as day to all of them. Everybody thinks he knows all about it. The natives and the doctors, who are mostly of Jewish origin, have the same notions and agree pretty well. Where such general knowledge (?) prevails, it is a confession of ignorance to make anything like a thorough examination. Especially is this true of skin diseases. These are all classed under one head, and one name, "*soda*" suffices for all. If the physician takes more than a passing glance at them, it is an indication that he knows nothing of the case. I see, from accounts in the journals, that the same custom prevails, and even to a worse extent, in China.

As for the native physicians, I need hardly repeat, that they know nothing, in reality of the science of medicine. They bleed and starve for everything, and persevere with the treatment until their patients die from exhaustion. In the treatment of ulcers and sores of various kinds, they have some success where the affection requires a sedative or depletory application, but they fail completely where the tonicity of a part is below par.

I shall soon have a hospital under my care. I am anxiously awaiting its completion. We could soon have the building ready for use, but we have not the money to support it when completed. A few rooms will be fitted up this summer for patients who are able to pay for their care. I hope to find hospital treatment much more satisfactory than I have yet found the present method of treatment.

It falls to my lot to treat chiefly cases upon which native skill has failed. I have nearly all diseases that incline to a chronic course, but very few acute affections. My method of beginning treatment is very formal, if not agreeable. Unless positively contraindicated by the disease or the condition of the alimentary tract, I give first an almost toxic dose of santonine. This is taken in the morning, fasting, for these people seldom eat before noon. Then follows a calomel purge for evening and an enormous dose (three or four ounces) of castor oil for the next morning. By this means I clear the alimentary canal of the lumbricoid worms, of which every native has from six to one hundred. I then consider my patient ready to be treated for whatever disease he may have.

There is much diphtheria here. The city is seldom free from it and at times it assumes an epidemic form. Most of the cases fall into the hands of native doctors and thence go quickly under the sod. In the few cases I had last winter, I succeeded pretty well, using plenty of alcohol, iron and good food, with local applications. I fear, however, that I shall not sustain my reputation, for I now have several cases of a very adynamic type.

We have a great many cases of rheumatism, and malaria in every form and in all stages. There is a good deal of low fever among the children, in part due to malaria and in part to disturbance of digestion. The remedies I use are mostly very simple and as inexpensive as possible. I am compelled to use quinine pretty freely. Many of my drugs come already compounded, in the form of pills or concentrated mixtures, some of the formulas are sufficiently complex to satisfy the most ardent admirer of polypharmacy.

Syphilis is a quite common disease, in every variety and stage. The Persians are vehement in their denials of having ever had such a disease; but improve nicely under specific treatment. I find no little difficulty, however, in the administration of either murcury or the iodides, on account of the ease with which these people are salivated. In reality, few drugs can be given in American doses, and they must all be administered, for the first time at least, with care. I find nothing so serviceable in the treatment of syphilitic or other sores as iodoform, either in powder or in a salve with vaseline as a vehicle.

At some future time I shall further acquaint the readers of the LANCET AND CLINIC with practice among this peculiar people. PERSIA.

Hamadan, February 25, 1884.

A PENSION CERTIFICATE.

Editors Lancet and Clinic:

The following certificate of a medical examination, made by an M.D. as the basis of an application for pension, having lately fallen into my hands and regarding it as a "veritable gem" in medical literature I offer it for your columns that my professional brethren might have the benefit of it as well as myself. Names, for obvious reasons, are suppressed, otherwise I give it *verbatim et literatum et punctuatum:*

March 15 1884.

Case of ——— who came before me for medical exam on the 15th day of march 1884 Conditions of diseas Angina Pectoris an irregular and intermitent pulse this may be symtomatic with the digestive organs. & a defecient action of the excretory organs. I find in the case of —— the above conditions with digestive power impared though the condition of the stomach may vary greatly sometimes at other times iritation which would be intense Cronic Digestion being impaired, imperfic nutrition which would in digree account for the structural changes found in the action of the heart, I have been personally acquanted with ——— twenty five years know him to have served in the late war with. and believe by posative evedince of his condition at the present time that his diseas was contracted while in the war from exposure and hardships I have not treated him for the diseas here in found but know they exist by a personal examination I have no intirest in his claim.

—— ——— M D

Sworn to before a notary public as being his writing and Signature

Now, Mr. Editor, after reading the above, will you or some one of your many readers tell me what was "*the disease here in found*"? Diagnose the case if you please and tell us what *is the matter* with the fellow? I mean, of course, the applicant and not the Doctor; or, if you choose, give a diagnosis of *both* cases.

Yours, A. C. MOORE, M.D.

Amelia, Ohio, April 17, 1884.

Society Reports.

ACADEMY OF MEDICINE.

Meeting of April 14, 1884.

W. H. WENNING, M.D., *Pres't in the Chair.* G. A. FACKLER, M.D., *Secretary.*

Vesical Calculi.

DR. CONNER presented a number of calculi, removed from the bladder of a man sixty-seven years of age. The operation had been performed thirteen days ago. The patient had complained of symptoms, arising from the presence of stone, for a period of twenty years; had never been sounded or treated until two weeks ago. Introducing the sound, the speaker detected, without difficulty, several large calculi. He advised immediate operation. Three large stones, each of which weighed 500 grains plus, together with a number of small ones, making an aggregate weight of 1,800 grains plus, were removed; they were phosphatic in character. The incision made was not large, and some difficulty was experienced in extracting the three large stones. Since the operation no untoward symptoms had manifested themselves, the temperature ranging from 99° to 99¾°F.; patient eats and sleeps well. The case is of interest, on account of the number of calculi, their large size, duration of disease, and age of patient. Of the twenty-four or twenty-five patients upon whom the speaker had performed lithotomy, this was the oldest.

DR. OSMOND, referring to the difficulty experienced in retaining the flexible drainage-tubes and the advantage of the bone tube mentioned at the last meeting, called the attention of the Academy to the black, hard rubber tubing. This is of the size of a large catheter, highly polished. If it is desired to alter the shape of the tube, immerse it in hot water, bend it to any convenient angle, and the shape will be retained after exposing it to the air or placing it in cold water. Thus the curvature may be altered to suit any channel, The black rubber is inocuous, and not permeable by any fluids with which it may come in contact.

Malignant Disease of the Breast.

Dr. **Ransohoff** said that the patient operated upon April 8th was the mother of two children, the oldest of which is twenty-two years of age. At the birth of this child she suffered with an extensive abscess of the breast, which, however, after evacuation, healed, leaving only a scar. The patient was perfectly well until a year ago, when a distinct nodule could be discerned in the cicatrix. When the speaker saw the case the growth had attained the size of an egg. It was firm, hard, and the cicatrix depressed in its center. It was situated in the upper and outer quadrant of the gland; no lymphatic enlargements present. The mamma was removed and the axilla thoroughly cleaned. The speaker had brought the specimen to show its most interesting feature, viz: the depressed scar in its center.

It is claimed by one authority that twenty per cent. of cancers of the breast are found in individuals who at one time have had an abscess of the mamma. In the majority of these cases the malignant disease prevails two and a half to twenty years after the abscess. The relationship existing between cancer and abscess may be explained by the theory that when the abscess forms a portion of the gland may be separated from the remainder, and, through some change, become the starting point of a developing cancer.

In this case the temperature at no time ranged above 99½°F. The operation was performed by making two eliptical incisions, and from their junction prolonging the incision to the axilla, thus exposing the pectoralis major and latissimus dorsi, leaving the fat adherent to the tumor. No enlarged axiliary glands were discovered.

Dr. **Conner** said that he was inclined to be somewhat skeptical as to the relation existing between the cicatrix of an abscess and the cancer following. It is probable that carcinoma developed as usual, and not as a consequence of the abscess. If statistics are examined closely, we find that more women have had an abscess not followed by cancer than those having cancer with a previous history of abscess. The speaker has always been skeptical as to trauma being a direct cause of carcinoma. There is scarcely a woman forty years of age who has not, at some time in her life, received an injury of her mammæ, followed by somewhat serious symptoms. There is a great doubt in the speaker's mind whether the theory of smoker's cancer is true. Other plausible demonstrations may be given. In Dr. Ransohoft's case operative procedure had to be resorted to. According to his own experience the axilla should be thoroughly explored. But it is not his custom to remove the fat. It is certainly better to err on the side of safety and remove too much than too little. It is a question whether it is advisable, when no axillary enlargement presents, to open and clean out the axilla, and thus expose the woman to increased waste.

The speaker had been consulted two weeks ago in a most interesting case, viz: carcinoma following long-standing eczema of the nipple. Not only the nipple, but a circular area with a radius of two inches, presented a florid surface, with distinct granular points. The entire gland was involved by a tumor, and the axillary lymphatics were enlarged. It is a question whether this is simple eczema, or a form resembling but not true eczema. Some doubt the advisability of operating. But the danger of infection is so great that it is the part of wisdom to sacrifice the breast. There was some retraction of the nipple in this case. This symptom does not possess the value attributed to it. Anything that attacks the bundles of fibers which surround the ducts will retract the nipple. It is a well-known fact that there exists in scars a tendency for infection.

Dr. **Young** said that in his oplnion, regarding the ætiology of cancer, there exists a predisposition, and by some trauma, probably, the disease may be developed. A condition may have existed in the scar, which by irritation produced cancer. Carcinoma is only a deviation of growth and development of cells from their natural growth. As to operation, he fully concurred with Dr. Ransohoff. These are the only cases where a chance of permanent cure offers itself. Glands were not affected, and the disease had not extended as far as usual. Here there is offered an opportunity to eradicate the disease thoroughly. It is primarily local, and affects the constitution slowly. Removal secures, even when the constitution is greatly affected, some immunity from suffering.

DR. RANSOHOFF remarked that as a rule he did not lay much stress upon the statements of patients. But when such a distinct scar is observed in the center of a neoplasm, some connection must certainly exist between them. It is certainly not definitely settled that trauma is followed by cancer, but 20 per cent., as quoted above, is a fair percentage from which to lead deductions. Thinks his method of operating the correct one. The time will come when amputation of the mammæ will not be complete without cleaning out the axilla thoroughly, whether the glands are affected or not. In the last four of his cases no enlargement of the glands existed. Kuestner finds in many cases, in which macroscopically no enlargement of the glands can be detected, yet if examined under the microscope, we can detect involvement of their substance. There is no question that opening the axilla increases the danger of the operation. While in simple ablation 2 per cent end fatally, in ablation combined with cleansing of the axilla the mortality is increased to 5 per cent. But the risk ought to be taken, for there is a better chance for ultimate and probably radical recovery.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Thursday Evening, April 10, 1884.

The President, DR. TYSON, in the Chair.

Rupture of the Heart. Presented by DR. T. D. DUNN.

William H., æt. fifty-eight, on the evening of November 3, 1883, invited his daughter to take a walk. While she put on her wraps he reclined on a sofa. A few minutes afterward his wife heard a faint groan. She immediately went to his side, only in time to witness his last gasp. With the exception of occasional dyspepsia, he had enjoyed good health. He was a man of leisure, full habit, and apparently robust and strong. He had been a constant though moderate drinker for some time, but seldom carried it to complete intoxication. He had never complained of any heart trouble.

Autopsy—seventy hours after death.—Owing to objections of friends, the brain was not examined. The muscular system was well developed, and there was a large quantity of subcutaneous fat. The lungs and pleura were healthy, with the exception of a few old pleuritic adhesions posteriorly. There was a large deposit of fat in the mediastinum and over the entire surface of the heart. The pericardium contained about one ounce of recently clotted blood. The heart was adherent to the pericardium by two small bands—one near the apex of the left ventricle, the other midway between the apex and auriculo-ventricular groove. Externally, on the left side of the left ventricle, below the auriculo-ventricular groove, there was a linear rupture about one inch in length. On opening the heart, no valvular disease could be detected, and there was no evidence of atheromatous disease of the large vessels. There was an ulcerated surface about the size of a silver dollar, irregular in outline, and communicating with the external linear opening. This ulceration extended through fully two-thirds of the heart muscle; the muscular tissue of the outer third seemed recently lacerated or separated. The stomach and liver were normal. The left kidney was somewhat enlarged, the capsules slightly adherent, and cortical substance relatively increased; the right appeared healthy. Microscopical examination revealed fatty infiltration of the fasciculi, but no degenerate changes of the muscular cells could be detected, nor was there any atheromatous change of the vessels of the heart.

The interesting feature of this case, in connection with those presented to this Society during the past year, is the suddenness of the attack, without any premonitory symptoms, resulting almost instantaneously in fatal syncope.

Diphtheritic Bronchitis. — Croupous Pneumonia. Presented by W. E. HUGHES, M.D.

W. D., white, aged forty-three years, a salesman, was admitted to the University Hospital April 1st. Of rather intemperate habits, he had been on a prolonged spree and much exposed to the weather, when, three days before, he had been seized with a severe chill, followed by high fever, and later, intense dyspnœa, with but little cough and no pain. When first seen he was so weak as to be unable to give a satisfactory history. Face and extremities congested, heart feeble and irregular, breathing rapid and labored. The breath was extremely fetid, but he complained of no throat symptoms and there was no stridor. The cough was hacking, not very troublesome, and he expectorated small quantities of frothy blood-stained serum. Physical examination showed flatness over the whole right lung with imperfect bronchial breathing, best marked at the root; over the left lung some impairment of resonance, with large moist rales. He died in less than an hour of apnœa.

Autopsy (notes by Dr. Formad), fourteen hours after death. Pleura of right lung inflamed, plastic exudation, about one pint of serous effusion; left pleura normal. Right lung compressed by the effusion and uniformly in the beginning of the second stage of croupous pneumonia. Left lung has a spot an inch in diameter in the upper part of the lower lobe pretty far advanced in the second stage of pneumonia, elsewhere it is simply congested and œdematous. Pharynx acutely inflamed, with some spots of superficial ulceration and scattered deposits of false membrane. Tonsils ulcerated, the bottoms of the ulcers sloughy and covered with offensive false membranes. The same condition obtains in the larynx, its surface is softened, reddened and dotted with false membrane and superficial ulcerations, near the base of the epiglottis is a deep offensive ulceration one-half inch in diameter; epiglottis œdematous. In the trachea the condition is more marked than in the larynx, about the middle of the trachea the patches of false membrane become continuous and clothe the whole inner surface of the tube, growing thicker and more consistent as the bronchi are approached and traceable into the finest ramifications of the bronchioles, in the larger tubes tubular, in the smallest solid cylinders. The exudation is but loosely adherent to the mucous membrane, which is red, thickened or raw. Lymphatic glands of the neck are moderately enlarged, red and softened. Liver, kidneys and spleen congested, otherwise normal. Heart contains unusually firm white cells.

Carcinoma of Larynx. Presented by W. E. Hughes, M.D.

T.C., aged forty-nine years, had been complaining of some alteration of voice for six weeks. He was a man of rather dissolute habits, denied syphilitic infection, had never had his larynx injured, nor irritated by foreign substances or gases, and had a perfectly good family history. In addition to the change in his voice, which was at first the most marked symptom, there was slight tickling cough. Soon after this the glands beneath the angle of the jaw enlarged and he began to have fits of slight dyspnœa. His flesh and strength failed but slightly and his appetite remained unimpaired, though a slight trouble with deglutition prevented his eating as much as he would have liked. When first seen, the glands of his neck were enormously enlarged, but painless and, still movable. His voice was husky or cracked, sometimes whispering or lost; his breathing difficult and noisy. Alternating with this constant difficulty of breathing were fits of dyspnœa, brought on by no appreciable cause, often so intense as to threaten life. Two days later he died in one of these attacks of dyspnœa before aid could be rendered.

For the foregoing facts I am indebted to the kindness of Dr. Geo. J. Preston.

Autopsy, nine hours after death. Body well nourished. Cervical lymphatic glands enormously enlarged, rather firm, no signs of degeneration. Bronchial glands slightly enlarged. In the cavity of the larynx, above the vocal cords, not involving them but involving the ventricular bands, and extending from them to the top of the larynx, was a firm, pinkish, nodular growth, involving the right side most. The epiglottis was so involved in this growth as to have no vestiges remaining of its original shape. The mucous membrane was intact. The growth had left only a narrow slit for the entrance of air, which could be easily completely closed by pressing down the deformed epiglottis. The pharynx and œsophagus were not involved. The cartilages of the larynx were completely ossified and around the superior cornu a small abscess had formed, resulting apparently from a necrotic process in the ossified cornu. The trachea and bronchi were normal; the lungs congested. There was a slight increase in the fibrous tissue of the liver and in the substance of the right lobe was a small cheesy nodule. The kidneys were granular. On microscopic examination the growth was found to be made up of large irregular cells, separated into masses, in which was no intercellular substance, by a scanty stroma of connective tissue. Scattered through the growth were masses of fibro-cartilage, not connected with cartilage of the larynx. The mucous membrane was proliferated, and in places prolonged into the subjacent connective tissue, but nowhere did it take part in the new growth. The epithelium lining the gland was much proliferated and seemed to have been the starting point of the morbid process. The enlarged lymphatic glands were infiltrated with a growth similar to that in the larynx.

PROCEEDINGS OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

Meeting of April 2, 1884.

Dr. Edward T. Bruen read the following paper on the

History of a Case of Perihepatic Abscess.

The accompanying specimen exhibits an abscess which had occurred between the diaphragm and the liver. The abscess contained nearly a pint of laudable pus. The superior wall of the abscess was the diaphragm, and the inferior the perihepatic capsule; the hepatic substance was not involved; indeed, the liver was normal. There were evidences of catarrhal inflammation in the colon, and one or two nearly cicatrized ulcers. The only other lesion in the body was found in the right pleural cavity, the lower portion of which was obliterated by inflammatory adhesions.

The clinical diagnosis presented some interesting features.

The patient, a young man, æt. twenty-eight years, was admitted to the Philadelphia Hospital November 30, 1883. His previous history indicated that he had suffered from an attack of dysenteric diarrhœa four weeks before his admission, although he had convalesced from this attack. He was evidently much emaciated. The temperature, until December 8th, ranged from 100° to 102°; from December 14th, from 99° to 101°, after which it never rose above 99⅜° in the evening, and was always 98° in the morning; this continued until the fatal termination of the case, on the 20th inst. The pulse was usually above 100. There was occasional sweating; no chills. Extreme tenderness was felt over the hepatic region, associated with pain during the first ten days; the hepatic dulness extending four inches in the nipple line, and about five inches in the axillary region. Physical examination of the chest upon the right side revealed the evidences of a dry pleurisy; there was some cough, which was dry and hard, but not very annoying. Appetite and digestion were fairly good. Urine normal.

The diagnosis of hepatic abscess was made during the first week, chiefly because the symptoms of hepatic lesion, already detailed, were antedated by dysenteric diarrhœa. The pleural lesion was regarded as a secondary inflammatory process engendered by hepatic disease. On December 10th all symptoms of pain and tenderness had vanished; the patient's strength, appetite, and general condition markedly improved; the temperature had fallen to 99°, so that the diagnosis was revised to that of perihepatitis. From December 10th the improvement continued until the 20th, when, after an attack of vomiting, the patient suddenly died.

The autopsy appeared to prove that the inflammation, which resulted in the formation of the abscess, was primary in the pleura; and the secondary irritation developed the local peritoneal process.

The symptoms of abscess in the hepatic substance are frequently latent. I recall one instance of a patient admitted October 9, 1877, who walked to the hospital and remained under treatment until the 15th, suffering from apparent remittent fever. The day of his death he rose, in the absence of the nurse, and walked down stairs to smoke a pipe; that afternoon he had a hemorrhage from the bowels and died. The temperature of this patient was between 99° and 101°, and the clinical diagnosis was remittent fever, or typhoid of the variety called ambulatorius. The autopsy revealed an abscess about the size of a fœtal head, occupying the convexity of the right lobe of the liver.

In the case I have reported this evening, the subsidence of pain and tenderness, and the temporary improvement of the patient, certainly misled me. Under similar circumstances, I should certainly introduce an aspirator, as I was inclined to do in the beginning of this case, because I am satisfied that the healthy liver can be punctured by a fine needle without damage, whereas either a hepatic or perihepatic abscess may at any time prove fatal by rupture.

Finally, if my explanation of the etiology of this abscess is correct, the case is interesting, as showing the relation of pleurisy to serious perihepatitis.

Criticisms, from a Chemical Point of View, on Some Favorite Prescriptions. By DR. HENRY LEFFMANN.

The few points that I present to the College this evening will include little that is absolutely new, but I think the time will not be entirely wasted as I know that the prescription list of most of our drug stores will give numerous examples of the violation of chemical principles here mentioned. My attention was called to this topic by my being shown by an apothecary a prescription calling for—

Syr. hypophosph.,
Tinc. ferri chlor.,
Acid. phosp. dil.;

concerning which he said that in the proportions ordered he could never make the mixture up clear. I examined the precipitate and found in it, as I had expected, a large proportion of the iron and other basic ingredients. This is a simple case of incompatibility. Turning the matter over in my mind, it has seemed to me that while some attention is paid to cautioning students as to the general nature of incompatibility, very little or none is given, especially in the shallow chemical teaching of many medical schools, to the properties and qualities of chemical substances in their relations to the animal tissues, and the manner of administration. I present here, therefore, a brief consideration of a few well-known remedies.

Under the name of *colorless tincture of iodine*, several preparations are used, depending for their popularity on the fact that they do not stain the skin. They are prepared either by the use of ammonia or of sodium sulphite or hyposulphite. They owe their particular property, or rather absence of property, to the neutralization of the iodine, and just to the extent that the iodine is decolorized is it to the same extent deprived of virtue. The free active affinity of the iodine, to which its local action must be due, is destoyed in these preparations, and the destruction is not slow or uncertain, but in two of the methods mentioned, it is sufficiently rapid and definite to be made the basis of a method of quantitative analysis. It is certainly difficult to see how any person could go so wide of simple chemical principles as to invent or employ this mixture.

Potassium chlorate, or, as it is still erroneously called by many, chlorate of potash, is a remedy concerning which extraordinary claims have been made, based upon the most erroneous notions of its chemical qualities. It is employed in the laboratory as a source of oxygen; knowledge of this fact has led to its employment as an oxidizing agent in diseases which have been supposed to express deficient oxidization. I have nothing to say here as to the clinical results obtained from potassium chlorate in any disease—although I believe it is much less in favor than formerly — but I enter a protest against any advocacy of its usefulness as an oxidizing agent. Under temperatures and conditions, such as that which it meets in the human system, it is one of the most stable of bodies, does not part with its oxygen or chlorine, and, indeed, will not begin to do so except under very high heat. I have found by actual experiment that ten grains of the salt kept for two hours at a temperature of 100° F., in contact with an artificial gastric juice, did not develop oxidizing qualities sufficient to oxidize one-sixtieth of a grain of phosphorus. This experience is merely confirmatory of what every-day experience with the substance teaches us.

Potassium permanganate has been more or less in favor with physicians for a score of years. It is well known as an oxidizing agent, its powers in this respect are well marked. It is as little suited for internal administration for such purpose as the body just considered, but for an opposite reason. Its chemical properties are developed by almost every substance, and in the doses in which it is given it will be decomposed and rendered inert very shortly after being swallowed. Within a very recent period the salt has come into notice as a remedy for amenorrhœa, and great has been the tribulation of apothecaries. It has been given in pill form, and all the usual excipients have been unavailable. I have made a few tests of the permanganate pills now in the market, and I find with regard to those made by one of the most reliable houses in this city that the permanganate is all decomposed, and converted into the insoluble manganese dioxide. The preparations of two other manufacturers, made up with some mineral excipient, probably kaolin, were in good condition, but as soon as placed in a mixture of hydrochloric acid and pepsin, they began to decompose into insoluble manganese oxide. These pills vary in strength from one-eighth to one grain, this small quantity of permanganate certainly must soon decompose in the stomach, and the only virtue which it can have is from the manganese itself, and if this is effective, common sense would seem to suggest that the result could be best obtained by exhibiting some definite compound of manganese, such as the chloride or sulphate. When we consider the chemical relations of the salt, and almost certain inertness of it in small doses, the gravity with which the learned English therapeutists who have recommended it in amenorrhœa, have discussed the possibility of its producing abortions becomes almost burlesque. I do not desire, of course, to impugn the clinical observations that have been recorded on this point, but I feel obliged to say that if the insoluble and variable decomposition products of one-eighth of a grain of potassium permanganate can affect the function of any one organ, then the difference between us and the apostles of the infinitesimal is small indeed.

I cannot dismiss these two compounds, which owe their popularity to mistaken notions of their properties, without saying a word or two as to the exhibition of oxidizing agents. If rational therapeutics or physiological study indicates remedies of the so-called oxidizing class, then it will be found that no better agents are known to us than those which have long been in our hands. In nitric acid, nitro-muriatic acid, and chlorinated soda we have substances which are sufficiently stable to resist the organic bodies of the saliva and gastric juice, and are sufficiently active to give oxidizing effects if such can be obtained by other than local action. I have grave doubts whether the nutritious fluids of the body can be oxidized by any method, but there can be no doubt whatever that such effect cannot be attained by either a body—potassium chlorate—which yields its oxygen only at a red heat, nor by one—permanganate—that decomposes the moment it touches any form of organic matter. Some years since a correspondent in one of our medical journals gravely recommended the use of raspberry syrup to disguise the taste of potassium permanganate. It was of course entirely successful, the taste was destroyed, so was the compound.

Caffeine citrate is a remedy much in favor, and is a remarkable instance of how much physicians take for granted in the remedies they use. There is no caffeine citrate in the market, and it is doubtful whether any such a salt can be prepared. The commercial preparations are either pure caffeine or variable mixtures of it with citric acid.

The manufacturers in this city each furnishes a different article, except in cases in which they buy from a common source; and a house in a neighboring city furnishes an article which contains no citric acid. Some of the samples are purely bitter in taste, while others are distinctly sour. Analyses of some of the commercial salts are recorded in a paper read before the last meeting of the American Pharmaceutical Association by Dr. G. C. Wheeler. He found the quantities of caffeine varied from 95.5 per cent. to 63.5 per cent.; of citric acid from 63.5 per cent. to 3.5 per cent.; none of these figures correspond with the proportion of a true citrate.

It seems to me that accurate clinical observation cannot be made with a preparation of so uncertain a character; for, as seen by these figures, the proportion of active ingredient may vary 33 per cent., and the lesson that these analyses teach us is that when the effects of caffeine are wanted they are best obtained by the use of the pure alkaloid, and not by a pretended and uncertain compound of it.

REPORT OF PROCEEDINGS OF THE ILLINOIS STATE BOARD OF HEALTH.

Quarterly Meeting, Chicago, April 17 and 18, 1884.

The regular quarterly meeting of the Illinois State Board of Health was held in Chicago, at the Grand Pacific Hotel, on Thursday and Friday, April 17th and 18th, 1884.

Present, Newton Bateman, presiding, W. A. Haskell, A. L. Clark, R. Ludlam, W. R. McKenzie, John H. Rauch.

The President called the Board to order Thursday, at 10:30 A.M. The minutes of the previous meeting, January 17, were read and approved. Under the call for reports from officers, the Secretary presented the following quarterly report:

Quarterly Report of the Secretary, January 1 *to March* 31, 1882.

During the quarter ending March 31, 1884, there were received in the Secretary's Office 615 communications, letters, reports, etc., exclusive of 183 diplomas submitted for verification, and the affidavits and other papers accompanying applications for certificates in nearly 200 cases. There were sent out during the same period 760 letters, postals, circulars and other communications, and the usual quantity of the Board's publications, Reports, Registers. Preventables, Disease Circulars, etc., of which 277 packages were sent by express. 81 telegrams were received, and 122 sent.

Certificates entitling to practice medicine and surgery under the Medical Practice Act, were issued to 152 graduates, upon diplomas from legally chartered medical institutions in good standing.

Among these were a number of practitioners previously holding the certificates of the Board, issued after examination. There are now not to exceed 50 practitioners in the State who have not since graduated from a medical college, in accordance with the recommendation of the Board.

To midwives 12 certificates have been issued, 6 upon diplomas or other recognized credentials, and 6 upon examination. There were, in all, 12 examined during the quarter, of whom 6 were rejected.

The Diplomas of 1883-4.

Applications based upon the diplomas issued at the close of the last session, have been received from the graduates of eleven different colleges which have either failed to fully comply with the Schedule of Minimum Requirements of the Board, or against which charges have been received that such compliance has been perfunctory and insincere.

In eight of the cases, where the colleges have failed to fully comply with the schedule, the applicants have signified their intention, in response to a suggestion to that effect, of submitting to an examination by the Board on those subjects omitted by their respective schools.

They will present themselves at this meeting, and I recommend the adoption of this course with regard to the diplomas of that class of colleges.

During the month of March I spent two weeks visiting Eastern colleges with reference to this matter, and was much gratified at the spirit manifested concerning the Board's efforts to improve the status of medical education, especially from the better class of colleges.

I regret not being able to devote more time to these personal visits. They are much more satisfactory and profitable than anything which can be accomplished by correspondence.

On the whole, there is every reason for encouragement in the results of the work thus far. One of the most satisfactory proofs of the timeliness and wisdom of the Board's action is found in the attitude of the graduates themselves.

Expressions of approval from a very large number, and, as already stated, of a willingness to submit to an examination by the board, from others, have been received.

Prevalent Diseases.

Smallpox has reappeared at a few points in the State, viz.: at Chicago, two cases, one from Cincinnati and one from Indianapolis; at Cairo and East St Louis, several cases, from the river; at Charleston, Coles County, a tramp, said to be from the pineries of Wisconsin or Michigan; at Coulterville, Randolph county, five cases, among negroes, contracted from a negro roustabout. At the close of the quarter an outbreak is also reported at Yorkville, Kendall county.

In all these cases (except Chicago) the rules and regulations of the Board, and necessary advice and instructions, printed and written, are at once furnished. These are now so well understood, and the community generally is so well protected by vaccination and revaccination that there is no spread of the disease beyond the first cases. Some sensational statements were made about the cases at Cairo, but investigation proved them to be unfounded.

Scarlet fever has been reported from a few localities, but not to such an extent as to warrant special mention.

The Cattle Disease.

On the 13th of March the Board was appealed to by the State Board of Agriculture concerning information received that foot-and-mouth disease (epizootic aphtha) existed among cattle in Effingham county. Coupled with reports of its existence in Kansas and elsewhere the report demanded the most serious attention. Its highly contagious character, the rapidity of its spread, and the difficulty of eradicating the contagion, combine to render it one of the most dreaded of all the animal plagues, from an economic standpoint. It is estimated that the direct money loss to English stock-raisers from this disease, in 1872, exceeded $65,009,000, and the average annual loss in France is computed at 5,000,000 francs for twenty successive years.

There is no legislation in this State concerning the disease, beyond the authority conferred upon the State Veterinarian to investigate contagious and infectious diseases among animals. But the power to condemn infected animals, to quarrantine, or to enforce other measures for the arrest of such diseases, and to prevent their spread, is limited specifically to pleuro-pneumonia and glanders.

In this emergency it was evident that if the disease really existed it could only be dealt with through the State Board of Health, by virtue of the powers and authority vested in it by the second section of the act of May 25, 1877. Steps were, therefore, at once taken to ascertain the foundation for the reports; the State Veterinarian was dispatched by the Governor to Effingham county, and subsequently to other points.

Profs. Morrow and Prentice also visited herds, in various localities, said to be infected.

Meanwhile I had been conferring with Dr. D. E. Salmon, the Chief Veterinarian of the Department of Agriculture, at Washington, and had carefully studied and compared all the reports from the several localities, and finally arrived at the conclusion, subsequently confirmed by the veterinary experts, that the disease existing in Illinois, Iowa, Missouri, Kansas and Nebraska was not foot and mouth disease.

Sanitary Council.

The sixth annual meeting of the Sanitary Council of the Mississippi Valley was held in Memphis, Tenn., on the 21st of March. Beyond the reception of the reports of officers and committees, and the transaction of the usual routine business, nothing of importance was attempted. The object of the meeting was mainly to keep the organization in readiness for action should an emergency arise requiring its intervention.

A resolution was adopted thanking the Executive Committee for its labors during the season of 1883, approving its course, and instructing it to adopt, if necessary, the same line of action in regard to the prevention of the introduction of yellow fever or other infectious diseases into the Mississippi Valley during the year 1884.

Recent changes in the *personnel* of some of the most important sanitary organizations originally represented in the Council, are cause for congratulation, and for the first time in many years there is now good reason to believe that all boards of health, State and local, in the Valley, will act as a unit. Respectfully submitted,

JOHN H. RAUCH,
Secretary,

On motion of Dr. Clark, at the conclusion of the reading, the report was accepted and ordered placed on file.

The Secretary made an informal supplementary statement regarding his action on applications for certificates, based on the diplomas of the session of 1883–84.

On motion of Dr. McKenzie, the action of the Secretary was approved.

Fifteen candidates presented themselves for examination, among them being six graduates of colleges which had not fully complied with the Board's schedule, and whom it was proposed to examine only on the subjects omitted, namely, preliminary education and hygiene.

At eleven o'clock, on motion of Dr. Clark, the Board went into executive session for the examination of sundry cases concerning colleges and individuals, representatives of three colleges being in attendance and desirous of a speedy hearing.

At one o'clock p.m. the Board took an hour's recess for dinner, and at three o'clock, after having transacted sundry routine business, the executive session was resumed and continued until six o'clock, when the session was adjourned until Friday morning.

FRIDAY, April 18—9:30 A. M.

The Board met, pursuant to adjournment—present as before. The Secretary presented the correspondence and other papers in a large number of cases, which occupied the attention of the Board during the remaining hours of the session.

The Secretary was authorized to attend the proposed conference of representatives of State Boards of Health, to be held in Washington, D. C., during the meeting of the American Medical Association.

In the case of Dr. W. W. Bower, of Mt. Sterling, Brown County, charged with being identified with the "American Anthropological University, of St. Louis," the Secretary was instructed to forward Dr.

Bower's denial and explanation to the Hon. John Eaton, Commissioner of Education, by whom the charge was laid before the Board, and to request of General Eaton that he forward any evidence in his possession tending to prove that said Bower was concerned in the sale of the diplomas of the so-called University.

The Auditing Committee reported that it had examined and approved bills for the current quarter amounting to $2,664.80, and recommended that the same be paid.

The Secretary reported that only two of the candidates who had undergone the full examination had attained the required percentages entitling them to pass, and that both of these were men who already held diplomas from medical colleges.

At eight o'clock p.m. the Board adjourned.

Dr. Alfred Stillé.—It is stated that in the early part of next month, immediately after the close of the winter session, Dr. Alfred Stillé will tender his resignation as Profeseor of the Theory and Practice of Medicine in the University of Pennsylvania, after an incumbency of twenty years.

Five years ago Dr. Stillé offered his resignation, but at the request of the Board of Trustees he withdrew it.

It is understood that Dr. Pepper will be elected to the chair vacated by Professor Stillé.

A life size portrait of Prof. Stillé has been painted by Waugh, by order of the students of the medical department, and will be presented to the University at the ensuing commencement.—*Medical News.*

A Hint to Dentists.—A professional friend informs us that a dentist once complained to him that the greatest annoyance in dentistry is the constant flow of saliva, which interferes with manipulations. He suggested the use of belladonna, explaining its action to him. A patient coming into the office just then the physician, to show the correctness of his statement as to the effects of belladonna on the saliva, injected hypodermically into the patient's arm, a dose of solution of atropia. He says he was nearly as much surprised as the dentist at the complete arrest of the salivary flow; the dentist was in ecstasies, and declared the knowledge was worth a thousand dollars to him!—*Courier-Record of Medicine.*

THE CINCINNATI
LANCET AND CLINIC
A Weekly Journal of
MEDICINE AND SURGERY,
Issued every Saturday.

Terms, $3.50 per annum in advance.

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Editor and Publisher,
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Cincinnati, April 26, 1884.

The Week.

American Medical Association.—The time and place of meeting this year is May 6th at Washington, D.C. We are assured by the Committee of Arrangements that ample preparations are made to make this not only a profitable meeting but one of the pleasantest gatherings in the history of the Association.

Washington has many attractions for the intelligent physician, not the least of which is the presence of Congress.

The code question, like Banquo's ghost, will not down, and will cause discussion. In fact, it will bear discussion, and we hope that a large committee of representative men will be appointed to report on the desirability of a revision of that document. We would further suggest that such committee be constituted most largely of the younger members of the Association. As a class they are much more interested in the enactment of laws that are to govern professional intercourse than those who have already served their day and generation and who have obtained all the honors the profession have seen fit to bestow upon them. It is in the interest of the whole medical profession that it should not be divided into factions, and yet that is bound to be the result of a retention of a code in its present form. We have the utmost respect for the code and believe it has been a mighty factor in the elevation of the standing and education of the medical profession, but as a time did come when it became necessary for the salvation and unity of the nation that the Constitution should be amended, so it has come about that in order to preserve the harmony and unity of the American medical profession it becomes necessary to remand that document to a large and representative committee for amendments, and such amendments should be sent back to the societies now entitled to send delegates to the Association for affirmation or rejection.

Unless the Association takes some such action the quicksands of disaffection and consequent disintegration are absolutely certain to take place, and, instead of a united, influential and grand body, the American Medical Association will become a skeleton faction, eminently respectable and honored for the good it has done.

We want an Association that is progressive, active in every living issue that comes before it as the representative body of a great and highly honorable profession.

THE WAY TO WASHINGTON.—The Baltimore & Ohio Railroad have arranged to take delegates to the American Medical Association by a special train from Chicago and one from Cincinnati. These trains will be made up of new and elegant palace day coaches and sleeping cars. Special arrangements are made for meal service along the route.

Delegates should, at as early a day as possible, call on or write to Mr. J. F. Dunnie, General Passenger Agent, 173 Walnut street, Cincinnati, Ohio, for reservation of berths and passage and other information.

The railroad officials have placed these two entire trains at the disposal of the Association, and we know that every effort on their part will be made to make the occasion one long to be remembered by those who are fortunate enough to fall into their hands.

Mr. Dunnie informs us that the fare to Washington and return will be at greatly reduced rates. See him or write to him at once if you think of going.

THE May Music Festivals, biennially held in Cincinnati have achieved a renown that is world wide.

With great adroitness the board of directors of the May Festival Association have succeeded in bringing together the worlds greatest living musicians, these will be supplemented by the Cincinnati Chorus, for the production of the finest compositions in melody.

Doctors need recreation e'en like other people and there can be nothing offered in that direction superior to a few days given up to the enjoyment of these festive occasions.

The Official Programme of the Sixth Biennial Musical Festival at Cincinnati May 20, 21, 22, 23 and 24, 1884 is issued in the highest style of the art preservative. Those who feel at all interested in music whether they attend the festival or not should secure a copy.

A CHICAGO physician, of experience and ample references, finds it necessary for climatic reasons to leave the vicinity of the Lake, and would like to correspond with a party of standing and established practice, with view to association in business. Address, X Y Z, care of LANCET AND CLINIC.

AT THE next meeting of the Cincinnati Medical Society, April 29th, Dr. DeWitt will read a paper on the "Relationship of Certain Morbid Brain Alterations to Insanity."

ACADEMY OF MEDICINE.—At the next

meeting, April 28th, Dr. Ransohoff will read a paper on "Tracheotomy in a Case of Membranous Croup," and Dr. McKee one on "The Hymen."

Translations.

Spontaneous Development of Gas in the Bladder.—Dr. M. F. P. Guiard reports, in *La France Médicale*, several cases of the discharge of gas from the urethra, in which the phenomenon was due to the spontaneous formation of the gas in the bladder, there being no abnormal communication between the urinary passages and the alimentary tract.

The first case was that of a physician, seventy-seven years of age, who had suffered twelve years from diabetes, and for a long time had had urinary calculi, for which he had undergone several operations. In 1879 he observed for the first time what appeared to him a most startling occurrence—the passage of gas through the penis, a symptom from which he has never since become entirely free. The discharge was not constant, but occurred at variable intervals; and yet, notwithstanding the most careful observation on the part of the patient, no explanation can be given for its periodicity. At times every act of micturition for eight or ten days will be followed by a discharge of gas; then for several days the phenomena will entirely disappear, only to recur again. Neither the diet, nor the quantity or quality of fluids ingested; neither exercise nor rest; in fact, no other condition appeared to exert any influence whatever upon the occurrence of the symptom. The phenomenon is attended by no peculiar sensation, and when the patient wishes to urinate he is never able to predict whether the act shall be accomplished without the discharge of gas, accompanied by a more or less marked intonation. The gas is without odor; the urine is clear and of acid reaction. The possibility of the existence of a fistula has been excluded by most careful examination.

The author is cognizant of three cases, reported by Prof. Guyou, who gives as the cause of the phenomenon a peculiar fermentation of the urine. Guiard further believes that, as these cases occurred in the course of diabetes, it is at least highly probable that the formation of the gas depends upon the conversion of sugar into alcohol and carbonic acid gas within the bladder.—*Deut. Medizinat Zeitung*, March 27, 1884.

Antivivisection Frenzy.—At a meeting of the Société de Biologie, February 22, 1884, Magnan read a paper in which he accounts for the spirit of the antivivisectionists ("antivivisectionism") by saying that it is a feature of hereditary insanity. He bases his opinion on the study of three cases.

Bromide of Potash in Diabetes.—Dr. Worm-Müller cautions the readers of the *Nordsk. Mag. for Sægev.* against the absolutely ineffective treatment of diabetes with this remedy, as he has had unpleasant results from its use in several cases.—*D. Med. Zeit.* J. M. F.

Selections.

MEDICINE.

The Treatment of Gonorrhœa.—By S. C. Gordon, M.D., Portland, Me.

It may be fair to assume that a majority of cases of gonorrhœa that come under our observation are more or less protracted beyond the time ordinarily described as the natural course of the disease. It is certainly true that it is very much more protracted than a majority of patients are content to wait, and therefore we find many of them following the advice of almost any druggist or friend who has some "sure cure." What is most wanted is a remedy that aborts the disease, or relieves the discharge and inflammatory results in less time than is usually done when the disease has passed beyond the primary stage.

From a very large experience during my army life, I became convinced that the routine treatment of mild injections and the balsams and other nauseating mixtures had very little influence toward shortening a disease that, if left to itself, under favorable circumstances, would last but three or four weeks.

I have been reminded recently, by an old sergeant of one of the companies of my regiment, that in the city of New Orleans, where the regiment was stationed for a few weeks, one morning he presented at surgeon's call upward of twenty-five men of his own company who were more or less ill from "ladies' fever," for that was the name by which it was familiarly known.

I tried the abortive treatment with a very strong solution of nitrate of silver, and also with the weak solution, very frequently repeated, until bloody discharges were produced, with occasional good results, but more often with a failure; and the last state of the man was far worse than the first. The balsams disturbed the digestion and destroyed the appetite, so that the remedy was worse than the disease, and I preferred that the soldier should eat and keep his strength, even if the gonorrhœa seemed to be neglected, although, in fact, improvement was about as fast in the one case as in the other.

That experience about convinced me that any such plan as was ordinarily recommended in the literature of the day did little more than nature did; so for several years, until three years ago, I ordinarily put the patient upon a simple cleanly plan, which embraced the use of warm-water injections sometimes medicated with some opiate, bathing the penis in very hot water for a long time at short intervals, diluting the urine by drinking plenty of water, and using a good, nutritious diet, cutting off stimulants as a rule. By this plan I could, in a majority of cases, promise a cure in three or four weeks, rarely in less time.

Three years ago this very month a gentleman came to me, having had gonorrhœa about two weeks. His domestic relations were such that he was extremely anxious for a speedy recovery. The inflammatory process had ended, but the mucous membrane was swollen and engorged from the exudate and from passive congestion, while the urethra felt like a whipcord from the submucous deposit that had taken place. The disease had extended the entire length of the canal, and the bladder was suffering in consequence, so that dysuria was a constant symptom.

Previous to that time I should have been content with prescribing an anodyne and diuretic, and have used as many placebos as my ingenuity could devise. Certainly several weeks must elapse before such a case can be cured under such a plan of treatment as that. My daily experience with the hot-water douche in similar conditions of the genital organs in the female suggested that, if I could pass a current of hot water over this diseased urethra, as I would inject gallons of hot water into the vagina for cervical endometritis, vaginitis, and pelvic exudate following peritonitis and cellulitis, surely I could accomplish much more than by the ordinary small syringe. The suggestion was father to the act, and, telling my patient what I proposed, and he assenting to anything that promised speedy relief, I filled a fountain-syringe with a quart of water at a temperature of about 100° F., and with one of the small tubes introduced into the urethra as high as I could push it, I injected it and allowed it to run back into a vessel. It ran back by the side of the tube, washing the urethra as far as it was thrown up. The first trial acting as a sedative, or at all events giving no pain, I filled the fountain again, this time increasing the temperature about 10°. I found that, by asking the patient to strain a little as if urinating, the urethra could be sufficiently dilated to allow the water to pass into the bladder, and in that way I filled and refilled the bladder several times, allowing him to pass it off himself each time. The relief afforded by this second injection was immense, and from that moment the dysuria ceased to be an element of much trouble.

This douching I continued twice each day, and in three days I had the pleasure of seeing my patient practically relieved of *all the unpleasant symptoms*. A very slight discharge remained, but a repetition of the same treatment for a few days more completed the cure. From the first day of the injections no anodyne was needed, and no medicine was given. The chordee was relieved, the burning sensation removed, and the patient happy.

Within the year following I had an opportunity to make other trials of the treatment, and in each case I was more than satisfied. To any one familiar with the rapid melting away of pelvic exudate, under the use of the large douches of hot water, it will not seem strange that the effect upon this mucous membrane should be almost magical. The cure was so absolutely complete that the ordinary dragging along, consequent upon more or less stricture, was entirely absent.

Finding such good results in cases where the primary stage had past, I determined at the first opportunity to try the effect in a case at the commencement, if I could see it early enough.

The case was not long in coming, being

of only twenty-four hours' duration when I first saw it. I administered two quarts at the first sitting, waiting a few minutes between the injections. This time I used water as hot as the patient could *possibly bear it*, at times being obliged to stop on account of the severe heat. If it did not actually scald the parts, I felt that it would be more sure to abort the disease, this being the object I had in view. I continued this twice each day, and at the end of the third day the patient told me that all discharge had ceased. A sudden demand in a business way took him from my care, and I did not see him for two weeks, when he came back saying that two or three days after leaving me, having no means of using the injections, he had a slight discharge, which continued three or four days, and then disappeared.

The next case came under my care at the end of the third day from the beginning. I had but little hope of doing much in the way of aborting it, and the result proved my fears to be well founded. I tried the hot water faithfully for three days, and while, unlike the strong solutions of nitrate of silver, it did no harm, I am sure it did not change the course of the disease; so I suspended the treatment, using only a mild course, until the inflammatory process had ended, then returning to the douche with good, yet not such rapid, results.

The next two cases were in quite young men, one of whom I had treated for a previous attack by the old expectant plan. I am sure that by that plan he was several weeks in getting well, although it was a very mild case. Within the past year he came to me with a well-developed gonorrhœa in the early stage. I saw him first on Friday (as I find by reference to my notebook), again on Saturday, giving the injection twice each day, and on Monday morning he came in, saying: "I am well, and have been since Saturday night."

The other patient was an old offender (although young in years), having had three previous attacks, one of which lasted a year. He had been under all sorts of treatment, however, before consulting any regular physician. His former experience had taught him by this time to seek competent advice early, and I saw him within twenty-four hours. I administered the first injection myself, and as he had a friend with him who was a druggist and roommate, I prescribed a fountain-syringe and sent him away, with orders to carry on the treatment with the aid of his friend, which he did successfully within a week. I only fear that his elation at the prospect of getting out of it so easily may tempt him to break some of his good resolutions made in former hours of sorrow.

In conclusion, I can give only a brief summary of the cases in which I should expect the most satisfactory results from this mode of treatment:

1. I should hope, and confidently expect, to abort, in from three to five days, a large majority of cases that were treated as soon as the first well-known symptoms appeared. In these cases I use the injection as *hot as it can possibly be borne*—three or four times in twenty-four hours; at least two quarts should be used each time.

2. In cases of ten days' or two weeks' duration (at which time the inflammatory process has ended) I believe the most of the trouble can be relieved in a very few days. The suffering so characteristic of that stage will usually pass away in twenty-four hours. In many of these cases I have been enabled to force the water into the bladder and then allow the patient to pass it away immediately. This has a good effect upon the dysuria, relieving it almost at once. In this class of cases, also, the water should be very hot.

3. Where two or three days have elapsed before the patient is seen, I do not expect so much as in the former classes. Even here much may be done by the external use of very hot water, and the careful, gentle use of the fountain-syringe, filled with *simple warm water*, at about the temperature of the body, or less. This promotes cleanliness, and is a sedative.

I would add that my three years' experience fully justifies me in commending this plan to the attention of the profession.—*New York Medical Journal.*

DANDRUFF: WHAT IT IS, AND HOW TO CURE IT.—By George T. Jackson, M.D.

The term dandruff, or dandriff, has often been very loosely used to designate at least four distinct diseases of the scalp, namely; pityriasis simplex, seborrhœa sicca, eczema erythematosum or squamosum, and psoriasis, and it is probable that a fifth disease has been included under it, namely, a diffuse trichophytosis capitis. Properly speaking, its use should be limited to that scaly condition of the head which is due to seborrhœa sicca or pityriasis simplex.

Whether these latter two diseases are identical or not is still an unsettled question. By the majority of the German systematic writers they are regarded as one and the same disease, but they present enough points of difference to entitle them to separate consideration. I have here placed them together for convenience, as they give rise to a somewhat similar condition of the scalp and are amenable to the same treatment. To draw the line sharply between the two is sometimes exceedingly difficult.

Seborrhœa sicca is a functional disease of the sebaceous glands in which an abnormal amount of sebaceous matter of abnormal consistence is secreted by them. This dries upon the scalp and either appears in the form of thin, fatty plates about the mouths of the hair-follicles or adheres to the hairs in flakes, or, if of more pronounced nature, heaps up into thick, fatty masses or cakes which cling with a good deal of tenacity to the sclap. This latter form is seen very frequently in children during the early months of infancy. If portions of these crusts or cakes are rubbed between the thumb and finger they will impart an unctuous feeling. The scalp in this disease is usually pale or leaden-hued, and when the crusts are removed shows no tendency to moisture, or else exhibits a fatty, glistening surface upon which the crust is soon renewed. In some cases more activity is shown and the scalp is hyperæmic. The affection runs a chronic course, is generally quite uniformly distributed over the whole head, but in some cases it is confined for the most part to the edge of the hair over the forehead and to the vertex of the head. Some pruritus at times is present, and sometimes, in consequenbe of scratching, there will be excoriations. When we have the head covered with thick, fatty crusts which give an unctuous feeling when rubbed between the thumb and finger, and upon being removed leave the scalp pale, there will not be any difficulty about the diagnosis. But in those cases in which only dry scales are present and the scalp is slightly hyperæmic, our decision as to the disease cannot be so readily given.

Pityriasis simplex, or *capillitii*, is essentially an interference with the cornification of the upper cell-layers of the skin, on account of which, instead of the normally compact stratum corneum we have a constant scaling off of the imperfectly formed epithelial scales. The whole scalp may be quite uniformly affected, or the disease may be limited to the vertex, or it may occur in circumscribed patches. The scales are thin, easily detached from the scalp, sometimes so easily as to be readily blown off, and they do not pile up into crusts. When rubbed between the thumb and finger these scales do not impart the same unctuous feeling as do those of seborrhœa sicca, though there is usually a certain amount of sebaceous matter present, as in seborrhœa sicca there is always an admixture of epithelial scales. More or less hyperæmia is usually present, though in some cases the scalp is of normal color. There is never any moisture of the scalp. Pruritus often annoys the patient, especially when he is overheated or is using his brain actively, and this inviting scratching, excoriations are often met with.

These two diseases, differing mainly in their essential lesion and constituting dandruff, cause annoyance by the constant falling of the scales upon the shoulders of the patient, ruining the clothing or giving it the appearance of being powdered, and by the pruritus which attends them. It is for those reasons, in most cases, that the patients apply to us for relief. But dandruff is in many cases the forerunner of baldness, and the fact that a long-continued seborrhœa sicca, or pityriasis, is the most frequent cause of premature alopecia should stimulate us to use our best efforts to cure the disease.

Causes.—Dandruff frequently occurs in strumous individuals who are anæmic and have a sluggish circulation marked by cold hands and feet. Adolescence is its peculiar time of appearance, and chlorotic young girls are apt to be annoyed by it. It is an attendant upon chronic debilitating diseases, as rheumatism, syphilis, phthisis, and the like, and comes on after profound disturbances of the constitution, such as fevers and parturition. Dyspepsia and constipation are very common exciting causes or aggravants of the disease. Improper care of the scalp, the use of the fine-toothed comb, and of pomades, hair "tonics," and hair-dyes will give rise to the disorder. In some cases there is apparently no cause for the disease, but careful inquiry, even in these cases, will usually bring out some latent cause, such as worry, overwork, mental or nervous strain, and the like. Malassez, Thin, and some others claim to have found a parasite as the origin of the trouble, and recent experiments by Lassar and Bishop would seem to prove that the disease, at least pityriasis simplex, is contagious. These investigators (Lassar and Bishop) took the hair and scales from the head of a healthy German medical student, made a pomade by chopping them up and mixing them with vaseline, and rubbed it into the back of a guinea-pig and of a rabbit. In the course of three weeks these animals presented an appearance similar to that of the student. The experiment was twice repeated, using the hair and scales from the first and second pair of animals respectively, and with like result.

Diagnosis.—Before we can intelligently treat a case of scurfiness of the scalp we must arrive at a correct diagnosis, and must differentiate between dandruff on the one hand and eczema, psoriasis, and diffuse trichophytosis capitis on the other.

Eczema is distinguished by the scales not being so abundant nor so greasy as in dandruff; by their being more parchment-like, as if formed rather of dried serum than inspissated fat; by the disease not being so diffuse but more limited to certain patches, or to one side of the head, and implicating contiguous non-hairy parts; by the greater amount of hyperæmia; by the moisture which is either present or readily induced by scratching; by its being far more pruriginous, and by its history. If thick crusts are present they will usually be of a greenish-yellow color, and when removed will expose a reddened oozing surface.

Psoriasis rarely occurs upon the scalp without being found on other parts of the body. It occurs in the form of circumscribed round, or oval reddish, infiltrated patches, which if of large size are seen to be composed of a number of smaller round patches which have joined together at their edges. These patches are covered with a thick mass of grayish or white glistening scales which are not greasy, and on being removed expose a number of minute bleeding points or red dots, and do not reform as quickly as those of seborrhœa. The disease tends to form a fringe under the hair on the forehead, and sometimes to push its white, glistening, scaly surface down upon the forehead, and often presents a patch just in front of the ear.

Trichophytosis capitis (tinea tonsurans), when occurring as a "ring-worm," should offer no difficulty in diagnosis, its circular shape and the presence of broken and gnawed-off hairs being pathognomonic. The diffuse form is rare, and is to be diagnosed by its history of gradual spread from numerous reddish points or papules, by its scales not being greasy, by the hair being broken off and fragile, and by the microscopical examination of the hair and scales, which will reveal the trichophyton fungus in abundance.

Besides these three diseases lupus erythematosus may sometimes call for differentiation. It is rarely met with upon the scalp, and then occurs in the form of a sharply defined patch with an infiltrated reddened base covered by a thin adherent scale, which being raised shows on its under side a number of prolongations, the sebum plugs withdrawn from the follicles. The disease causes loss of hair and well-marked atrophic changes in the scalp.

Treatment.—A good deal in the way of preventive treatment of dandruff can be accomplished by the proper care of the scalp and of the general health. More care than is usual should be bestowed upon the operations of brushing and combing the hair, washing the scalp, and upon the selection of the brush and comb. The brush should be composed of bristles well set into the back. The bristles should be placed in little clumps at regular distances and rather far apart, and those in each clump should be of unequal length and arranged so that the longest ones are in the centre of the group. It is well to have two brushes, one stiff enough to warm the scalp when used with vigor, and one quite soft. The comb should be made with large teeth set wide apart. When held up to the light the teeth should show no roughness or inequality of surface. The fine-toothed comb should be banished from the toilet-table, as it is an active agent in producing inflammatory conditions of the scalp, as many a case of eczema capitis in children will testify. In the morning the hair should be thoroughly opened up in all directions with the comb, and it and the scalp brushed vigorously with the stiff brush. Then the stiff brush should be laid away for the day, and the soft one used in parting the hair, in polishing it, and in subsequent brushings during the day.

Do not wash the head too much. I believe that the so commonly practised daily sousing of the head in water is hurtful to the hair and scalp, especially if they are not carefully and thoroughly dried afterward, and a little oil or vaseline rubbed into the scalp. It is not the daily sousing which is objectionable, but the insufficient after-care. Water renders the hair dry, and the daily sousing only washes the head superficially. A good shampoo every week or ten days for those persons exposed to a good deal of dust, and every two or three weeks for other people, is sufficient for cleanliness. For the shampoo, soap and water, borax and water, or one composed of the yolk of an egg beaten up in lime-water, are still simple and good, but it must not be forgotten to wash out these materials with plenty of clean water and to thoroughly dry the hair and scalp.

Patent hair "tonics," pomades, washes, and dyes are to be avoided. Those containing grease—the pomades—are, to use an Anglicism, "nasty," give the hair an unnatural lustre, smear the hat band and whatever the hair touches, and becoming rancid act as local irritants. None of these dressings are needed by the healthy scalp, and the proper care of the scalp as above indicated will preserve the hair in better condition than they will.

The nearer the body can be kept to the standard of perfect health by means of bathing, excercise, and good diet, the less likely is dandruff to develop. When, therefore, the disease has appeared, and we are applied to for relief, one of our first inquiries should be concerning the general health, and our first efforts addressed to remedying anything found to be wrong. For important as our local measures are in relieving the local disorder, in most cases we must depend upon internal treatment to render the cure permanent. The internal treatment must be along the lines marked out in works upon general medicine—tonics, as cod-liver oil and iron, for the debilitated; the acids and bitters for the neurotic and dyspeptic; mercurials, podophyllin, and the like for the bilious, etc. Duhring recommends sulphur and the sulphide of calcium as of especial efficacy, and arsenic sometimes acts well. We should insist upon our patient obeying the laws of general hygiene, and instruct him in the above or similar rules as to the proper care of the scalp.

Various substances, all of a more or less irritating nature, have been recommended for the local treatmeat of dandruff. Such are tincture of cantharides, ʒ j.–℥ j.; tincture of capsicum, ʒ j.–℥ j.; chloral, ʒ j.–℥ j.; bichloride of mercury, gr. ij. to iij.–℥ j.; the oleate and other mercurials in proportionate strength; sulphur, ʒ j.–℥ j.; carbolic acid, gr. x. to xx.–℥ j.; quinia, strychnia, etc. These have been given either in solution in alcohol, water, or the oils of olive, castor, rosemary, sage, etc.; or as ointments. A good menstruum for their exhibition is composed of glycerine, ʒ j.–ij., to dilute alcohol, ℥ j. Vaseline forms the best medium for their exhibition as ointments. Excepting where the hair is decidedly thin, so stiff an ointment as the ungt. zinci oxid. should be used, and lard itself is apt to become rancid.

Of all the above remedies, I have been led by experience to place my main reliance upon sulphur and the mercurials, and would advise the following plan of local treatment. If the case presents itself with a decided accumulation of scales, or if crusts are present, direct the patient to saturate his head with oil, preferably sweet almond oil, before going to bed, and to place over his head a flannel cloth soaked in the oil, and outside of all an oiled silk cap. The next morning he should shampoo his head thoroughly with soap and water, using by preference the tincture of green soap, and wash out the soap with plenty of water. The scalp is then to be dried by vigorous rubbing with a coarse towel, and the hair by pulling it through a soft towel. If the crusts by this method are not completely removed, the oil, should be kept on during the day, the head again soaked at night and washed with the soap and water in the morning. If the scalp should appear very hyperœmic after the crusts are removed, anoint the head with vaseline or some simple ointment, as rose ointment, until the hyperæmia is lessened. When the crusts are removed and the hyperæmia overcome, have an ointment composed of one drachm of sulphur loti to one ounce of vaseline applied every morning to the scalp. If the scales form rapidly apply the oil every night and the sulphur ointment every morning, and wash the head every second or third day. As soon as scaling is lessened stop the use of the oil, but continue the ointment, at first using it every second morning, then gradually reducing its application to once a week. Throughout this plan of treatment the head should be shampooed about once a week with the tincture of green soap, borax and water, or the yolks of three eggs beaten up in one pint of lime-water, to which a half ounce of alcohol is added. Another excellent ointment for these cases, for the formula of which I am indebted to Prof. Bronson, of the New York Polyclinic, is composed as follows:

℞. Hydrarg. ammon............ gr. xx.
Hydrarg. chlor. mitis........ gr. xi.
Petrolati........................ ℥ j. M.

This applied once or twice a day has yielded most admirable results in a number of cases of simple dandruff. Its consistence being that of a Mayonaise dressing renders it an elegant pomade for private practice. Its use should be combined with the occasional shampoo as directed above.

The persistent and systematic use of either of these two plans of treatment, together with a proper oversight over the general health, should cure every case of dandruff. But we should be prepared for occasional relapses, and not give our patients promise of too speedy a cure.—*The Medical Record.*

An Unobjectionable Form for the Administration of Medicines.—M. S. French, M.D., Philadelphia, contributes the following to the *Medical and Surgical Reporter:*

Of all the various forms in which medicine is prescribed, there is none so well suited for the administration of drugs possessing a poisonous influence, unpleasant odor, or taste, as the manufactured pill form.

The advantages derived from prescribing remedies in this form are so apparent, that it was a matter of surprise to learn that their use was not more general. It is on this account that I present this short article, hoping that it may lead to more extensive use and appreciation of this valuable method of prescribing.

Manufactured pills will become more popular with physicians, as their value and advantages are recognized. They are so beautiful in appearance, so quickly dispensed, reducing the danger of making a mistake, on the part of the physician or druggist, to an almost impossibility.

They also enable the physician to carry with him, in a small and compact form, ready for administration, all the remedies that might be needed in emergencies, and night practice.

To the physician engaged in country practice, where his patients are at a distance from a drug-store, they become of especial value.

In that class of pharmaceutical preparations which exhibits medicines in an elegant and palatable form, without the sacrifice of quality, uniformity or accuracy, American pharmacists have been doing excellent work, the result being that most of the objectionable features which formerly pertained to manufactured pills have been removed, being now produced in such a perfect and attractive form, that the most fastidious patient can find no objection to urge against their use.

There is little doubt but that much of popularity of Hahnemann's system of cure, based upon the maxim *similia similibus curantur*, is due, not to the truth of the law, but to the preference for the tiny, tasteless and attractive pellets; and the sooner the medical profession recognizes this, the quicker will the public see that, aside from pleasant doses, there is nothing but fallacy and error in homœpathy.

There are some drugs used in practice that cannot be administered in pill form, and there are instances where solutions are preferable. Such is the case in treating the various types of fevers, and where tonics are employed; but in the greater number of cases, the object desired is a continued influence, rather than an immediate impression upon the system, and for the accomplishment of this end pills are best suited.

In an article of this nature, it is not necessary or possible to dwell upon all the conditions to which the administration of remedies in the manufactured pill form are applicable, but to detail a few of the more frequent diseases, and specify instances where they have been used with success, during the past six or seven years.

The physician engaged in city practice sees no departures from health so frequently, as those associated with the digestion and assimilation of food. A majority of the patients presenting themselves for treatment, suffer from either a simple dyspepsia or some one of its many manifestations. The life led by people massed together in large cities is such an artificial one, the inhabitants being so subjected to the enervating influences surrounding them, that the indiscretions of diet, mode of living, anxieties, and the continual stuggle for existence, become active factors in producing the large number of dyspeptic cases.

There are certain conditions that cannot be relieved by dietetic and hygienic treatment alone, but require the use of drugs, which should be given in the most pleasant and unobjectionable form; as there is no class of patients so prone to find fault with their medicines, being best suited by doses that are attractive, tasteless and not bulky.

It will not be a digression to dwell upon the treatment of this common affection, as it will enable me to mention more particularly the remedies suited for administration in the form under consideration.

The power of digestion being depressed, special aids to that function will be found in pepsin and the alkalies; the anæmic condition may require iron, quinine or strychnia. Where remedies are needed, the action of which must be sedative, good results may be obtained from bismuth, opium, belladonna, arsenic or silver.

A very useful pill is that of aloin (one-fifth grain) and strychnia (one-sixtieth grain) given at bedtime; this will produce a mild, thorough, laxative effect, unloading the stomach and intestines, removing the fetid breath, the furred coating upon the tongue, and the cerebral congestion.

An error liable to be committed is the administration of cathartics of too active a nature; they are rarely called for, do little good, and might possibly do evil. Mild laxatives only are required, and care should be exercised as to their selection and frequency.

Formerly it was my custom to use pepsin and pancreatine more than at present, as recent investigation has led me to believe that as much benefit can be derived from the former agent alone, as when given in combination with the latter. Pancreatine has been shown to be itself digested by pepsin, so that its chance of getting through the stomach to the duodenum, where it normally exerts its function, is very slight, while when combined with pepsin, it must be digested as soon as the mixture becomes warm enough, in or out of the stomach, to carry on the process. Yet we see many preparations of which the chief virtue is supposed to be that they contain *all* the digestive principles. These can be active only so far as they contain pepsin, and have no advantage over the simple drug.

It has also been shown that certain substances combined with pepsin in solution, render it inert. Alcohol is one, and even in moderation diminishes its action, while, in any quantity, the activity of pepsin is totally prevented. This is a point often lost sight of, and serves as a hint concerning the use of liquors at meals, by dyspeptics.

Pepsin and bismuth are frequently combined when treating dyspepsia, and should always be administered in pill form, owing to the difficulty of keeping both agents together in a permanent solution, one requiring a somewhat acid menstruum, the other a neutral or an alkaline one. Nothing is more common than to see elixirs of pepsin, bismuth and strychnia, which darken, harden, and shrink the albumen placed in them. Liquid preparations are theoretically, if not practically, inconsistent, and will generally be found to be unsatisfactory.

In treating that form of dyspepsia met with in malarious districts and in persons who have passed the autumn months in the country, much good can be obtained from quinine, or a combination of quinine, iron and arsenious acid, given after meals, and for a length of time. When using quinine, the pill form is the best that can be resorted to, the soluble-coated pill possessing many advantages over the solutions, capsules, or wafers. In an article upon quinine, published about four years ago, I called attention to the ready solubility of the bi-sulphate, and urged its use, being the most soluble of the quinine salts used in medicine. On this account it is more active and better calculated for administration in pill form than the sulphate; but it should be borne in mind that as the bi-sulphate of quinine contains a smaller proportion of the pure alkaloid, the amount being only about 60 per cent., the dose should be one-fourth greater than that of the sulphate, in order to represent the same amount of alkaloid.

Iron is a most valuable remedy in the treatment of dyspepsia, but furnishes best results when given toward the termination of a course of treatment.

Active business men, brain-workers, and those who are subjected to much mental anxiety or overwork, frequently suffer from what is termed "nervous indigestion." To meet this condition we possess a valuable remedy in phosphorus, which should be given in small doses immediately after meals.

The best form of administering phosphorus is that afforded by the manufactured pill, which possesses many advantages over those made to order in the prescription room. A pill of this kind is exceedingly difficult to make, requiring especial care and skill. The phosphorus should be incorporated with the various ingredients, while in solution, so as to effect a thorough and uniform diffusion; they should also always be coated, in order to prevent oxidation. I have made some interesting experiments with phosphorus pills manufactured by Schieffelin, of New York, proving that their coating entirely protected the inclosed mass. A pill that had been manufactured a year ago was cut open, and the mass found to be as soft as though made but a few days. Another pill, of the same manufacturer, made eight years ago, was found to be but little harder. Upon placing two of the latter pills in a small quantity of water, the coating was quickly dissolved, the mass broken up, and when placed in a dark room the vial was plainly perceived, owing to the unaltered luminous property of the phosphorus. This simple experiment goes to show that if properly made and coated a manufactured pill does not become affected by age, nor do the various ingredients become so altered that they lose their medicinal properties. Experience has shown that such pills may be kept for years, even in a very warm climate, and still produce prompt and active effects when administered.

In treating the secondary forms of syphilis the plan recommended by Dr. Keys, "of administering mercurials in granules," possesses many advantages over the older method of prescribing the same substance in solution. Intestinal irritation seems to be later and less painful in its manifestations; it is an easier matter to regulate the quantity given when pursuing the "tonic treatment," and the granular form is the most convenient and portable for the patient. Certain cases will be encountered where the symptoms are so pressing that there is not time to get the patient quietly under the influence or the drug, when administered in granules; but fortunately such are not frequent, and can be met by resorting to the older methods until the urgent symptoms abate. The obstinate lesions occurring in the mouth are most successfully treated with granules, the patient being told to allow the little pill to slowly dissolve upon the tongue, thus obtaining the effect of a solution of corrosive sublimate upon the patches, while at the same time the general treatment is pursued.

In a case where the mucous patches in the mouth were very numerous and troublesome, no impression could be made upon them until the plan mentioned was tried, when they disappeared in a short time.

While pursuing the hyoscyamine treatment upon a patient afflicated with mental disease, the manufactured pills were of great advantage, as there was no doubt as to accuracy of dose, and they were easy to administer.

In a recent conversation with one of the leading alienists of this city, I was informed that he was using pills of this form upon several cases, considering them preferable to the hypodermic method.

When prescribing a medicine so powerful in its influence that doses of from 1-200 to 1-25 of a grain are desired, it is almost impossible to obtain the exact amount in each pill, unless a large number are prepared at one time and great care exercised in the manipulation of the mass. With drugs like arsenious acid, aconitia, aloin, atropia, codeia, digitalin, hyoscyamine, morphia, phosphorus, strychnia, and the more powerful mercurials, accuracy of dose and the decreased possibility of a careless mistake, are points in favor of the manufactured pill; while with such remedies as asafœtida, quinia, and others possessing a very unpleasant taste, the coating removes the objections to their use, which patients so frequently make.

Little children who struggled and had to be forced to be take quinine when prescribed in solution, powders or uncoated pills, will take the drug without objecting, when given in a coated pill.

In this article it has been my intention to point out a few of the advantages possessed by manufactured pills, over those prepared in the old and ordinary manner, and to speak of a few cases in my own practice, where the results from their use have been satisfactory. During the past seven years, the soluble-coated pills made by Schieffelin & Co., of New York, have been the ones prescribed, and I do not hesitate to recommend them to the profession.

The "coating" of pills is a subject of

much importance and of especial interest to physicians.

In a future article I shall bring to their notice some facts, to add to those published a number of years ago.

ATROPHIC NASAL CATARRH.—A Clinical Lecture delivered at the University of Pennsylvania, by Dr. Carl Seiler.

There is a class of cases of nasal disease which has as yet received very little attention by writers and practitioners, and which, although not as commonly met with as other varieties, yet is frequent enough to merit our consideration. This class of cases is characterized chiefly by a peculiar penetrating odor emitted by the nasal cavities, which is sometimes so strong as to make the presence of the patient in a room almost unendurable. On account of this odor, the disease has been termed "ozæna" by the older writers, a term which is incorrect and misleading, as it merely implies one of the symptoms of the affection, viz.: the bad odor, and this may be present in other forms of nasal disease.

It will be best for you to examine this boy yourselves, to appreciate the pathological changes which have taken place in his nasal cavities, before we can discuss the treatment suited to this affection. You see that the posterior wall of the pharynx is extremely dry and shiny, without any elevation or enlargement of the follicles and glands which we are accustomed to see in the ordinary form of nasal catarrh. The rhinoscope shows the naso-pharyngeal cavity to be lined with large scabs of hardened secretion, so that very little can be seen of the mucous membrane. The posterior ends of the turbinated bones, as they project into the openings of the posterior nares, are thin, and where the mucous membrane can be seen through the coating of inspissated secretion, it appears pale in color. The same condition of things is seen in the anterior nasal chambers, which are occluded by large plugs of hardened secretion, and appear unusually wide, because the lower turbinated bone seems to be absent. Careful and persistent questioning fails to reveal any specific taint in the patient, and in fact he is almost too young to have acquired syphilis, being only fourteen years of age. What he complains of is obstruction of the nose, dryness of the pharynx, loss of sense of smell, and the stench from his nose.

What is the cause of this accumulation and inspissation of secretion, which, by becoming putrefied, produces the odor? The answer to this question is the key-note to the pathology of the disease, and also the guide in the rational treatment of the disease.

After thoroughly cleansing the nasal cavities, and removing the plugs of hardened mucus with copious streams of an alkaline solution, we see on inspection that the mucous membrane throughout the nasal cavities is in a state of atrophy, which affecting the turbinated bones also, has materially reduced their size, so that you can easily see the pharyngeal wall through the anterior nasal cavities. This atrophy affects chiefly the serous glands, which, as you know, are quite numerous in the nasal mucous membrane, and which, by their secretion when in a normal condition, makes the mucus thin and watery, so that it can easily be removed by blowing the nose; when, however, as in the case before us, they are atrophied, and their secretion reduced to a minimum, the mucus secreted by the mucous glands remains viscid, and clings to the surface of the mucous membrane, becoming rapidly desiccated by the current of air inspired through the nose. This atrophy of the mucous membrane, extending as it does up into the olfactory region, affects the terminal fibres of the olfactory nerve, and thus the loss of the sense of smell, which is a common symptom in these cases, is brought about.

The ozæna or stench may, however, be occasioned in other forms of nasal disease, by the accumulation and putrefaction of secretion behind swellings or tumors where by the ordinary means of cleansing the nose, by washing and blowing, it cannot be easily removed.

Ulcerations are rarely met with in this disease, although they are sometimes found, usually on the anterior portion of the cartilaginous septum. The general health of the individnal has nothing to do with the causation of the disease, and its origin is as yet unexplained. It is likely, however, that it originates as a hypertrophic nasal catarrh, and rapidly passes into the atrophic stage, for we frequently meet with cases in which one side still presents the characteristics of the hypertrophic form, while the other side has already passed into the atrophied condition.

The treatment for atrophic nasal catarrh must be divided into two portions, viz., the removal of the accumulation of secretion and the disinfecting of the nasal cavities to remove the odor, and the stimulation of the mucous membrane, with a view to the regeneration of the serous glands.

This may be accomplished in the following manner: The nasal cavities are first cleansed with a copious stream of alkaline solution from the nasal douche; and let me tell you here, that this is the class of cases in which this much-abused instrument is not only applicable, but extremely useful without being harmful. If, after this, any plugs remain in the nasal cavities, they must be removed with a pair of forceps, and the washing repeated until all secretion has been removed, as you saw me do in the case before us. The next step is to disinfect the nasal cavities. Various substances have been used for this purpose, such as permanganate of potash, chlorine water, carbolic acid solution, iodoform, and many others; but they all have either great disadvantages, or else are but partially effectual. Lately I have used a preparation called Listerine, which answers the purpose admirably, without having any of the disadvantages of other disinfectants. It is a combination of the essential oils of thyme, eucalyptus, gaultheria, and other plants, together with a small quantity of benzo-boracic acid, and should be diluted one-half with water when used by the atomiser. The immediate effect is to at once destroy the stench from the nose, and to substitute for it the odor of the oil of thyme, which is rather pleasant than otherwise. I am in the habit of using a spray of this solution before making an examination, or before I cleanse the nasal cavities of such cases, thus mitigating very materially the discomfort to myself arising from the stench. The patient is directed to cleanse his nose with a solution of two drachms of bicarbonate of soda to one quart of tepid water morning and evening, and to throw a spray of the Listerine solution into the nostrils after the cleansing. Treated in this manner, I have seen many cases in which the odor was barely perceptible after the lapse of three or four days, and remained in abeyance throughout the treatment. The oil of thyme and of eucalyptus, besides being disinfectants, have also a stimulating effect upon the mucous membrane, and thus aid in the second portion of the treatment.

The stimulation of the serous glands to a normal action may be brought about by a variety of remedies, such as astringents in various strengths; but in my experience the insufflation into the anterior nasal cavities of finely powdered nitrate of silver, diluted with starch powder, has given the best results. Where there is complete absence of the lower turbinated bones, the introduction of a wad of absorbent cotton, which is to remain until washed out, and then be reintroduced by the patient himself, often aids in the stimulation by continually irritating the mucous surface with which it is in contact. Next in effectiveness to the silver powders, I have found a weak solution of ferric alum in the form of a spray thrown into the nasal cavities, and the natural iron water of Cresson springs is peculiarly adapted for these cases.

A treatment such as this, carried out for several months, has given, in my hands, most satisfactory results.

The internal administration of small doses of bromide and iodide of potassium in combination, on account of their influence upon the nasal mucous membrane, will greatly aid the local treatment. At the same time we must look to the general health of the patient, and administer tonics when their use is indicated. Whenever practicable a change of air should be advised, and the mountain resorts are preferable to the seashore in all cases of catarrhal inflammation of the upper air-passages, especially where the climate is a dry one.—*Medical and Surgical Reporter.*

MICRO-ORGANISMS IN DISEASE.—A very distinguished audience assembled at the Parkes Museum on March 27th, to witness Mr. Watson Cheyne's demonstration of pathogenic micro-organisms. Mr. Cheyne stated that the great group, commonly called bacteria, might be most conveniently subdivided into four classes: 1, micrococci (round bodies); 2, bacteria (small oval or rod-shaped); 3, bacilli (large rod-shaped bodies), and 4, spirochœtæ or spirilla (rods spirally twisted). He then demonstrated numerous micro-photographs, taken by Dr. Robert Koch, as well as some drawings, by means of a lime-light apparatus. He observed that the bacteria varied widely in their behavior toward the human body. The true pathogenic organisms were able to attack the living body and multiply in it; they included the organisms which found entrance through some wound, giving rise to the traumatic infectious diseases, and others which could obtain entrance without observable wound. Further, certain organisms, such as the bacillus anthracis, were capable of growing outside the body, in dead organic substances, while others, such as the bacillus tuberculosis, though they long retained their vitality in the dry state, were apparently only capable of developing in the living organism, or under artificial conditions, which reproduced to some degree those existing in the tissues of warm-blooded animals. To establish the proposition that a given morbid state was due to micro-organisms, it was necessary that an organism of definite form and with definite characteristics should always be found in the blood or in the affected part; that the blood of the affected part, when inoculated into another animal of the same species, produced the same disease; that when the blood or the affected part was inoculated on a suitable soil outside the body, the micro-organisms grew, and could be indefinitely propagated on similar soil, and that, when in this manner the organisms had been separated from the remains of the material in which they were imbedded, their inoculation in an animal produced again the same disease, the same organisms being found in the diseased parts. The conditions had now been fulfilled with regard to anthrax, septicæmia of the mouse, erysipelas, tuberculosis, glanders and acute pneumonia. With regard to typhoid fever, relapsing fever, cholera and ague, the evidence was very strong, but not conclusive. Mr. Watson Cheyne concluded by dwelling upon the importance of surrounding circumstances, chiefly those summed up in the phase unhygenic conditions, as concomitant causes of disease, by preparing the body for the attacks of these micro-organisms.

The chairman, Sir Joseph Lister, dwelt upon the important fact that the organisms which produced particular diseases were only able to develop under very special conditions, instancing the bacillus, which produced septicæmia in the house-mouse, but which was unable to produce any deleterious effects on the field-mouse. He thought this fact, which showed that the very slight difference in the blood of these two animals was sufficient to alter the condition favorable to the development of the bacteria was one or very great interest; as it was possible to conceive that, by the administration of some medicines sufficient alteration might be produced in the blood of the human system to kill off or prevent the development of any special bacteria on the first appearance of any symptom of disease in the patient.—*Brit. Med. Jour.*

THE BEST TIME FOR ADMINISTERING MEDICINES. — *The Midland Medical Miscellany*, has an excellent article on this subject, in which it answers the question: Before or after meals? Such is the question often asked of the doctor, but the answer is not always ready. Medicines that are irritating should be given after meals, when the stomach is full, viz.: the salts of copper, iron, zinc, and arsenic, in large doses, Small doses, intended to act on the stomach terminals of the vagi should be given when the organ is empty. Chemical reasons have their influence, thus oxide and nitrate of silver, intended for local action, should appear in the stomach during its period of inactivity, lest at other times chemical reactions destroy the special attributes for which these remedies are prescribed. Iodine and the iodides further illustrate this point. Given on an empty stomach they promptly diffuse into the blood, but if digestion is going on, the acids and starch form products of inferior activity, and thus the purpose which they are intended to subserve is defeated. Substances intended to have alveal action on the mucous membranes, or for prompt diffusion unaltered, are preferably given before meals. The condition of the stomach veins after meals is such as to lessen the activity of diffusion of poisons, and hinders their passage through the liver. It follows that active medicaments in doses near the danger line are more safely administered after meals.

When shall acids and alkalies be given, before or after meals? First as to acids. When acids are prescribed with a view to correct the excessive formation of the acids of the gastric juice, they may be given before meals — as by the law of osmosis they will determine the glandular flow of the alkaline constituents of the blood. The same reasoning would hold good when the alkaline condition of the blood was in excess; osmosis being favored, the acid would reach the blood more readily. Second, as to alkalies. These may be given just before meals, when the acid forming materials in the blood diffuse into the stomach glands, and after digestion is completed, when the alkalies diffuse directly into the blood, without interference from the concontents of the stomach. An alkali taken during the time when the reaction of the stomach juices should be strongly acid, must necessarily hinder, if not arrest, the digestive process for the time being. The metallic salts—notably corrosive sublimate, alcohol, tannin, and some other agents — impair or destroy the ferment, or digestive power of pepsin. Wine that is intended to act as a food is most beneficial when taken slowly during the course of a meal. The objection as regards the ill effects of alcohol on pepsin is not applicable here, except to the stronger spirituous wines in large quantities, for the ordinary medicinal wines have not sufficient alcoholic strength to injure this ferment. Iron, phosphates, cod-liver oil, malt and other similar agents, should, as a rule, go with food through the digestive process, and with the products of digestion enter the blood—*Jour. Am. Med. Ass'n.*

GALLIC ACID IN HEMORRHAGE FROM THE URINARY ORGANS. — Lionel S. Beale, in the *Lancet*, recommends the use of gallic acid in this affection, in large doses, and persisted in for several days. As gallic acid probably acts according to the strength of its solution, which bathes the bleeding tissue, it is necessary to insure the introduction of a certain quantity in the blood by the frequent administration of successive doses; as it soon passes away from the blood, being carried off in the urine, we must give it in quantity, and often enough to more than compensate for this loss. He has found it valuable in chronic bleeding from the surface of the mucous membrane of the pelvis of the kidney, ureters, bladder and urethra, and from villous growths, as well as in the very obstinate hemorrhage from large fungous tumors of the kidney and bladder. The remedy should be given in frequent doses, day and night, until the bleeding is very decidedly reduced in degree, when it may be ordered once in six hours, or less frequently. Gallic acid seldom disagrees in any way. It does not cause constipation, and even when the crystals are swallowed in a state of suspension in water or mucilage, the stomach is not disturbed by their presence. The glycerine of gallic acid is, however, the most pleasant form in which to prescribe the remedy. This contains one part of gallic acid in four. Forty minims will contain ten grains, and may be given in distilled water, peppermint, orange, or other water.

Dr. Beale has given ten-grain doses every three hours for three weeks, no objection being made on the patient's part. —*Jour. Am. Med. Assn.*

THE PHYSIOLOGICAL ACTION OF BROMOFORM. — Dr. Caj. Frieh. von Horoch, of Vienna, at the close of a paper on this subject, draws the following conclusions:

1. The respiration shows no noteworthy variations.

2. The motor centres of the heart do not suffer under the narcosis, and the pulse remains strong and normally frequent.

3. The peripheral ends of the vagi retain their irritability.

4. The blood pressure, lowered by the narcosis, stands, in dogs, between 57 and 36 millimetres. If, in the course of an experiment, narcosis is stopped, the blood pressure becomes normal, but falls again when the animal is again narcotized. The centres which control the bloodvessels do not seem to be so sensitive to electrical stimuli as in the normal state.

5. The reflex irritability was always entirely lost; irritation of the sciatic nerves with the strongest currents had no influence on the blood pressure.

6. Direct irritation of the vaso-motors (splanchnics) gave no results in deep narcosis, and relatively slight results in slight narcosis.

7. The irritability of the motor centres of the cerebral cortex was completely lost in deep narcosis; in this respect bromoform seems to be similar to other anæsthetics.

8. The temperature gradually sinks in experiments on animals, in dogs as much as 5° F.—*Mediz. Jahrb.*, 1883, Hft. iii., iv. —*Medical News.*

TREATMENT OF PERIPHERAL NEURALGIA BY OSMIC ACID. — Dr. A. Eulenburg, of Berlin, says, in a communication on this subject in *Berliner. klin Wochens.*, that the observations published by Delbastaille and others on the treatment of certain tumors (sarcoma and scrofulous lymphoma especially) have been confirmed by others. Lately Neuber has used from ten to twenty-four injections of osmic acid in two cases of sciatica, and in one case of trigeminal neuralgia, with complete success.

When the tendency to recurrence of the neuralgic attacks is considered, the results of this treatment do not seem very encouraging. Twelve cases are tabulated, including sciatic, lumbo-sacral, brachial, intercostal, occipital, and trigeminal neuralgia; of these three, all recent cases, were cured, two being sciatic and one brachial; in five cases there was no change for the better, and the remaining four were improved, other treatment being substituted in three of these. The number of injections in these cases varied from three to fourteen, extending over from one to six weeks, the injections being made over the seat of greatest pain, in order, if possible, to obtain a direct action by diffusion of acid in the perineurum. The injections were made of a one per cent aqueous solution in doses of *mv*. Eulenberg cautions that the solution be kept in the dark, as otherwise it becomes black, and for this reason it is better to use a freshly prepared solution.—*Medical News*.

SURGERY.

EXTIRPATION OF AN INTRAUTERINE MYOMA BY MEANS OF THE GALVANOCAUSTIC LOOP.—Dr. E. F. Fabbri, of the University of Modena, reports in *Annales de Gynéc.*, February, 1884, the case of a woman about 34 years old, upon whom he operated, Various means having been used to control the loss of blood and the pains, a thorough physical examination having shown that the growth, which was very large, could be extirpated, though only with considerable difficulty, it was determined to operate. The chief difficulties in the way of the operation were the size of the tumor and the fact that the vagina was small, the woman having had no child.

It was not thought best to operate just after menstruation, as the tumor was larger at this time. Fabbri determined, therefore, to operate between the periods of menstruation. In order to obtain dilatation of the external orifice, he provoked uterine contractions by means of an elastic vaginal tampon, such as is used in premature artificial delivery. After having dilated the os, and drawn the tumor down, the galvanocautery was introduced, the loop being double the long diameter of the tumor The loop was pushed up to the base of the tumor by means of what Fabbri calls a forked spatula. After considerable difficulty the loop was adjusted, and the rheophores were turned on. The loop was drawn slowly, so as to thoroughly cauterize the surfaces. In four minutes the tumor was removed from its attachment, and, after considerable difficulty, from the uterus. The patient recovered easily. The tumor was about the size of a duck's egg, and covered with very adherent mucous membrane, except over the anterior two-thirds of its upper extremity, where there was a zone of fibro-muscular tissue.

Fabbri advises the following for exploring the uterus when it contains a large tumor. He does not think well of the Sims sound, as it is too flexible, and is easily bent by an obstruction, so that the operator is deceived. Instead of this, he uses a sound of white metal, the uterine extremity of which has the shape of a finger, but is more flat, has a diameter of two fifths of an inch, and is slightly olivary. Its shaft is slightly flattened, and curved on the flat, but is easily placed on any desired curve.

At the close of his paper he draws the following conclusions:

1. Intrauterine myomata of intermittent appearance are probably always free throughout their whole length, and attached near the fundus uteri.
2. In order to explore the uterus which contains a tumor, one should use a sound the extremity of which is somewhat spoon-shaped.
3. For extirpating intermittent myomata, if one operates between the menstrual period, the os should be dilated, and uterine contractions brought on by means of the elastic tampon, and, if necessary, by introducing an elastic bougie into the uterus.
4. The galvanocautery is preferable to all other methods for removing these growths.
5. Simple corbolic injections are not sufficient for antisepsis; carbolated compresses should be applied to the vulva. — *Medical News*.

GALVANOPUNCTURE IN ANEURISM OF THE AORTA. — Dr. Francesco Brancaccio in *Revista Internaz di Med. e Chir.*, February, 1884, reports the case of a man æt. 64, of intemperate habits, who complained of pain in the left anterior part of the chest, over the base of the heart, which radiated to the shoulders. The pain came on suddenly, after a muscular effort, and was intermittent. Examination revealed a tumor, limited above by the upper border of the second rib, on the right by the sternum, and on the left by the mammary line, and below was continuous with the heart. The diagnosis of aneurism of the ascending portion of the aorta having been made, it was determined to practice galvanopuncture. A fifteen cell Daniell's battery was used, two needles being carried into the sac through the third interspace, to the depth of one inch and one-fifth, and an inch and a half apart. The first seance lasted sixteen minutes. In the afternoon the patient felt better, the tumor was smaller, the pulse, which had fallen from 118 to 90, was stronger. and the respirations were less frequent. Twenty days afterward the battery was again used, with twenty elements, for fourteen minutes. Altogether it was used four times, and the patient was completely cured.—*Medical Press.*

VAGINAL HYSTERECTOMY. — Professor Mueller, of Berne, has recorded four cases of successful removal of the carcinomatous uterus by the vagina, in the *Wiener Med. Wochenschrift*, No. 8., 1883, which differs in several essential particulars from the operations heretofore practiced.

With a view to avoid hemorrhage, he in the first place compresses the abdominal aorta with the fist, which is, as a rule, easily done, the walls of the belly being relaxed and thin in this class or subjects; and second, preserves intact the large vessels by limiting his incisions to the anterior and posterior walls of the vaginal vault, thereby not interfering with the sides, in which the vessels ramify, that under other methods require many ligatures. The uterus having been retroverted through the posterior opening, provisional threads are cast around the broad ligaments, and the undivided vaginal walls, when the uterus is split vertically into two symmetrical halves. The resulting pedicles, which consist of the broad ligaments and the vaginal walls are now tied with double threads and divided near the two halves of the uterus, which are then removed. The vessels of the stumps, three or four in number, are next tied, whether they are bleeding or not, when the compression on the aorta is relaxed and any other vessels of the stumps or of the vaginal wound are secured. After careful cleansing of the wound with a solution of corrosive sublimate, the stumps are permitted to retract, the ligatures are cut off on a level with the vulva, and a carbolized tampon is placed in the vagina. The latter is removed at the expiration of 24 hours, and the parts douched several times a day with the sublimate solution. The ligatures come away in the third week.

The novelty of Mueller's operation consists in the means employed to prevent hemorrhage, in not circumscribing the cervix with a complete incision, and in the vertical division of the uterus. The preservation of the lateral limits of the vaginal vault renders retroversion of the uterus somewhat difficult, but this is more than compensated for by the avoidance of bleeding. Homorrhage does not attend the splitting of the uterus, as that has been guarded against by provisional ligation of the pedicles.

The merits of this procedure will be the more readily appreciated if it be compared with the operations of Schroeder and Fritsch, which were described in *The Medical News* for December 15, 1883. Fritsch, who does the first cutting at the sides, says he has sometimes had as many as twenty ligatures on a single side, and as bleeding is one of the great dangers of vaginal hysterectomy, the method which best prevents it, other things being equal, is the one to be preferred.—*Medical News.*

VAGINAL INJECTIONS OF SUBLIMATE IN PUERPERY.—Corrosive sublimate is rapidly finding its way to the front as a disinfectant. Amongst others, many others we might say, who are now in favor of it is Dr. Kehrer, of Heidelberg. He dissolves 5 grammes in 200 of distilled water, and of this solution uses a small spoonful (10 c.m.) to a litre of water. This strength appears to us to be unnecessarily great; one grain to a pint is quite strong enough for almost any purpose. The vagina is swabbed out with this before the first exploration by means of a cotton or other mop, and the vagina is also washed out twice daily after removal of the after-birth, until the discharge ceases. It is not surprising that a solution of this strength roughens the hands and mucous membranes, and that urticaria has appeared on the genitals in consequence. In one case mercurial stomatitis came on, but this was in the case of a syphilitic patient who had been treated by mercury. In the discussion that followed the paper most of the speakers reported favorable results from a similar method of treatment.—*Medical Press.*

SALICYLIC PLASTER FOR THE REMOVAL OF THICKENED EPIDERMIS.—Dr. J. C. Ogilvie Will, surgeon to the Aberdeen Royal Infirmary, writes to the "British Medical Journal" that, having had his attention drawn to the value of Beiersdorf's salicylic plaster in the treatment of cases of thickened epidermis, by its having been mentioned by Dr. Thin, at a recent meetting of the Clinical Society of London, as recommended by Unna, of Hamburg, he (Dr. Will) employed it in the case of a man who had a peculiar affection of the dorsum of the foot, the whole fore part of which was rough, brown, and warty-looking, not unlike the hide of a hippopotamus. The overgrown epidermis was firmly attached to the underlying derma, as was shown by the occurrence of bleeding when an attempt was made to detach it, and the trouble was stated to have existed for two months. The affected part was strapped with the plaster, cut into strips, and at the end of three weeks it was found nearly cured. The application was then repeated to the portion that remained warty, and in ten days more the entire skin of the foot was perfectly normal.—*The N. Y. Med. Jour.*

MISCELLANY.

MARRIAGE AND MITRAL STENOSIS.—In a recent clinical lecture at *la Charité*, Dr. Landoazy stated that the mitral orifice is anatomically narrower in women. On the other hand, the hyperalkalinity of their blood leads to sclerosis. These conditions explain the frequency of mitral stenosis in women. Nevertheless, as long as the left auricle, says the *Journal de Médécine*, remains in good condition, the primary lesion makes but little progress, but when the great vital test of pregnancy comes, there is danger.

Porak's statistics show that in gravido-cardiac disorders, as they are called, more than two-thirds of the cases are those of mitral stenosis, mitral insufficiency, or the two combined. Obstetricans are agreed in advising that a woman suffering with mitral disease, especially mitral stenosis, should not marry; or, being married, she should not have a child; or, having given birth, she should not nurse. A woman with mitral disease, having been married, and becoming a widow without having borne a child, is in a most favorable condition if she remains content with widowhood. So, too, religious celibates who preserve their continence, may have mitral stenosis, and live to the age of grandmothers.

Landouzy mentions the case of a young girl, who had been in the hospital under his care, and whom he had advised not to marry, but who disregarded his advice, married, became pregnant, and after a miscarriage died suddenly in an attack of asystole.

Of course, in cardiac disease, it is well to discourage marriage, but in regard to such action the old fable of Cupid being blind has countless illustrations, and at the bridal altar these very maidens, like other brides, deck themselves with orange flowers, the very symbol of fecundity, whether they know this or not, when they ought not to have a single pregnancy. But, when married, they are advised not to have children. How many women can control this matter? To avoid reproduction is very easy to advise, very difficult to do. Possibly it might be well to counsel these cardio-pathics to prepare for marriage by first undergoing Battey's operation. But when the wife is not sterilized in advance, a similar proposition might be made to the husband, and in the day when our gentle sisters become professors of diseases of the male sexual organs, possibly normal orchidectomy may occupy as important a place in the surgical therapeutics of the diseases of men as normal ovariotomy now does in diseases of women.

However, we are not sanguine that either plan of treatment for the prevention of pregnancy will be adopted, but we are inclined to think that germicide solutions may continue to be in demand by cardiopathic wives.—*Med. News.*

THE ELEVATION OF PROF. FRERICHS to the rank of a noble has elicited much favorable comment from the German medical press. The *Berliner Klin. Wochenschrift*, referring to the honor conferred upon Prof. Frerich's expresses the opinion that all honorary testimonials conferred upon medical leaders are reflected upon the entire medical world. Whilst expressing satisfaction at the respect thus paid to the profession, our contempory rejoices that Herr Von Frerichs has been the person selected for the expression of this honor.

Prof. Frerichs makes the fifth professor upon whom this rank has been conferred in Prussia. The honor was first conferred upon the eminent surgeon B. Von Langenbeck in recognition of his services in the Danish war. Ranke, the historian, was the next to receive the rank. Dr. Lauer, the personal medical attendant of the Emperor, and the great physicist Helmholtz were the next to receive the promotion. In America, where no such honors are conferred by our national government in recognition of eminent services to science, art or literature, it is difficult to appreciate the significance of these honorary titles conferred by foreign governments upon their illustrious citizens; nevertheless, every true physician will applaud a nation which recognizes the eminent services of its most distinguished savants and rewards all such with such honors or emoluments as may be consistent with national customs or established usages. Different nations have different ways of expressing their regard for the truly meritorious. Whilst the American method may appear uncouth and homely to those accustomed to the glitter and patronage of royalty, it is effective to the extent that it carries with it the esteem and admiration of every true born citizen who is ever ready to pay "honor to whom honor is due" by deeds of benevolence or words of kindness. — *Maryland Medical Journal.*

SOCIAL RELATIONS OF INEBRIETY. — Some conclusions on this subject, reached by Dr. Crothers, of Hartford, are as follows:

1. Inebriety as a disease was noted in antiquity, and has ever been considered a form of insanity, marked by a progressive march or order of events, from certain physical causes, on to death.
2. The march of inebriety is in waves or currents, controlled by some unknown law, clearly within the range of some wider knowledge to prevent and remedy.
3. The treatment of inebriety by penal methods is disastrous to the victim, actually intensifying, and making the disorder more incurable.
4. Physical treatment, and isolation in special work-house hospitals, where the best conditions of physical and mental health can be applied, and maintained for a long time, give the largest promise of cure and permanent restoration, and are the means suggested by natural and scientific study.
5. As a question of economy simply, it would be an immense gain to the taxpayer and to society to thus quarrantine those persons and make them self supporting. This is a fact whose practical character is well assured in many ways. — *Med. and Surg. Reporter.*

FASCINATION.—M. Bremond has made, on sailors, soldiers, and officers, from fourteen to twenty-six years of age, a large number of experiments showing that lethargy, catalepsy, and somnambulism can be produced in healthy non-hysterical people, and that these phenomena are preceded by a peculiar state of fascination. The period of fascination is characterized by a sudden increase in the frequency of the pulse. One-third of the young men experimented upon manifested one or more of the above-mentioned symptoms.—*Brit. Med. Journal.*

Bibliography.

HANDBOOK OF ECLAMPSIA. (1)

We can discover no special reason for the publication of this little book. Its title is deceptive. As a record, it may have a local interest, for it is said to include all the cases of puerperal eclampsia occurring during the present century within a radius of several miles around Avondale, Chester county, Penn. But the work lacks the details to make it of interest to the profession. The histories as given are evidently written from memory, and are so incomplete as to even render the diagnosis uncertain in many cases. We do not doubt the ability of the authors to correctly diagnose a case, but we regret that they should neglect to record the important symptoms. In a pretty thorough review we observed only one or two instances in which the presence or absence of albuminuria was recorded. (The authors, by the way, advise against the loss of valuable time in the examination of the urine.) No record of temperature is made.

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1. Or notes and cases of puerperal convulsions. By E. Michener, M.D., J. H. Stubbs, M.D., B. Thompson, M.D., S. Stebbins, M.D. Philadelphia: F. A. Davis, Att'y, 1883.

The cases, forty-four in number, are classed under three heads, "hysteriform, epileptiform and apoplectiform," excepting four "aborted cases." The main difference between these varieties is that those of the second class were more severe than those of the first, while the "apoplectiform" were all fatal.

The main points insisted upon are the statement that with the drawing tighter of the corset, and the neglect of blood-letting during pregnancy, puerperal eclampsia has increased; and the great importance of blood-letting. The only symptom necessary to require the immediate use of the lancet appears to be a convulsion.

One sentence applies to us:

* * * "It would be unreasonable to expect the *elite* of the profession to leave the *bosses* * * * to follow *plebeian guides*." We are elite.

SHAKESPEARE AS A PHYSICIAN. (2)

This is a fair-sized volume of two hundred and twenty-six pages, and its contents comprise every word which in any way relates to Medicine, Surgery or Obstetrics found in the complete works of that most remarkable of men, the Bard of Avon.

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This little volume consists of a series of conversations, originally published in the *Medical Gazette*, of New York, and are intended by the author to represent the conflicting opinions of medical men of this country on the subject of a written Code of Ethics, and the grounds usually advanced for holding such views. This being one of the live topics of the day, this little volume is offered to the profession at a very opportune time, and as its author is recognized as one of the Nestors of the profession, it should be received with pleasure, and the contents given due consideration.

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2. By J. Portman Chesney, M.D. Published by J. H. Chambers & Co., St Louis, 1884.

3. On the subject of Medical Ethics, with an account of the Medical Empiricisms of Europe and America. By Frank Hastings Hamilton, M. D. New York: Bermingham & Co.

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DAN MILLIKIN, M.D., Hamilton, O.

GENTLEMEN: Your ancient usage puts upon the retiring President the duty of preparing a valedictory address. If you will bear with me for a short hour, I will endeavor to tell you something of the good work which physicians have done in departments of life which are not ours in strictness. It is within my plan to prove to you that no body of men, certainly no profession, has done so much for the real and measurable good of the human race as the profession to which we belong, and I promise you that, in making out my case, I will not allude to the work which we perform in our professional practice.

Not to take you too far back into the history of medicine and of science, I remind you that, partly by merit and partly by accident, a certain Greek of medical training was supreme in his influence upon learning for ages and ages. I allude, of course, to Aristotle, the son of the court physician, Nichomaches, of Macedonia. Aristotle was the last of a long line of physicians, of whom Galen has said that "from father to son they learned the art of dissection as regularly as others learned to read and write." For hundreds of years he was recognized as the greatest of the ancients. He was the very fountain head of knowledge through the darkest of the dark ages. Even Dante alludes to him as the master of them that know. His works that endure to our time are not less than twenty in number, covering the whole physics and metaphysics of his time, and at least twenty spurious works attributed to him, show how great was his fame in the first two or three centuries after his death. To this day, though we have outgrown the science of Aristotle, we inherit his phraseology and his logical processes, so that we cannot avoid Aristotleizing if we would.

When Greece and a great part of Asia became subject to Rome (146 A.D.) shoals of teachers and philosophers, and especially of physicians, streamed from the conquered countries into Rome and all Italy. They carried Greek learning with them, and the whole Roman world was quickly Aristotleized. So it continued until comparatively recent times.

In the fifth century of our era Nestorius, a native of Syria and Bishop of Constantinople, persuaded himself that there was an enormous difference between Christ the Son of God and Christ the Son of Mary, and hence that the Virgin Mary might be the mother of Christ, but not the mother of God. It was the age, happily long since departed, when such theological niceties were matter for serious discussion. A council at Alexandria adjudged this Bishop, Nestorius, guilty of blasphemy, and anathematized him and his followers, and drove them out of Christendom. Not to be excelled in gentle, ecclesiastical courtesy, Nestorius promptly anathematized the Bishop of Alexandria, for confounding the two natures of Christ, and so the matter stands to this day—both parties damned.

Though not sound on the main question, these heretics loved learning. Exiled, they founded a school at Edessa on the Euprates. Aristotle and the most famous Greek authors were at once translated into Syriac, and so near akin is the Syriac to the Arabic, that the elegant and cultured Mohammedans drank freely at the fountain thus opened to them.

The Mohammedans, notwithstanding their fervent religious enthusiasm, showed great tolerance toward men of science. It is not extravagant to say that they actually courted the Nestorians, who so justly prided themselves on their inheritance of Greek learning. Mohammed himself was under the instruction of a Nestorian monk in the convent of Bozrah. He often expressed admiration for the philosophy of the Greeks, and he joined the Nestorians in hearty detestation of the orthodox western idea that God could have a mother. When an exile, driven from Mecca by the idolaters, he took refuge at Medina, a town which was almost made up of Nestorians and Jews, and at that time he had sent his daughter to an asylum in Abyssinia, where the king was a Nestorian.

What mitigated the fanaticism of the Jews, Nestorians and Mohammedans at this time? Two things they had in common. The idea of one only and indivisible God was theirs alone for a long time when Western Christianity was drifting towards polytheism. This unitarianism was a bond of brotherhood between these sects. In the second place, these three sects had a proficiency in medicine especially and in learning generally, and this common possession still further annulled prejudice and religious enmity.

It is not possible to exaggerate the power and importance of the physicians of this time. The school at Edessa was the parent of many, until at length there was a chain of universities stretching from Bokhara to Cordova in Spain. These universities were officered chiefly by physicians who taught the sciences and, not stopping there, taught everything that was taught.

Roman conquest and Roman cruelty helped to disseminate learning after the fall of Jerusalem also. For after that event Jewish physicians began to swarm anew over Syria, and, indeed, over the whole Roman world, and they continued to be the chief professors in all the schools of which we have any knowledge.

Before and after this time the Caliphs were the patrons of learned men and had a special fondness for physicians. The lower classes of Mohammedans complained that the great ones of their faith consorted with unbelievers, whereupon the Caliph Al Mamun declared: "They are the elect of God whose lives are devoted to the improvement of their rational faculties." Another Mohammedan authority laid down this doctrine which passed into a proverb: "The real learning of a man is of more importance than any religious opinions he may hold."

After the disruption of the Roman Empire, the Jews were in incessant motion, driven hither and thither by the necessities of trade and by the most rigorous persecution. Settled homes were scarcely possible for them. The accumulation of visible property only invited Christian robbery, and under this persecution this wonderful race developed all the powers which gave them success in the long run. Cabanis, a great physician and historian, said of them that "they were our factors and bankers before we knew how to read; they were also our first physicians."

Taking a long leap into the tenth century we find that Avicenna, an Arabic physician, was saving the ancient learning and was propagating the soundest views of nature.

Such another physician was Maimonides, an original and daring thinker, versed in all the knowledge of his time, and an authority in Jewish and Mohammedan theology. One of his masters was Averroes, who, though a Moor, was half a Jew in belief. He also was a physician, as was the great son whom Maimonides left to perpetuate his name and his fame.

At this time, and throughout the long dark ages when heretical physicians were doing almost all the original work in science, the church, and even many eminent teachers of the Mohammedan faith, were propagating the grossest superstition with a tendency to simple fetishism. Rational explanations of natural phenomena were discountenanced as evil in their tendency, and in many cases they were specifically condemned by the highest authority. Disease, for example, was regarded as visitation of God, without any natural cause, and it followed logically that it was to be treated by some supernatural means. For a long time it was taught that the different parts of the body were under the control of different saints, so that it followed logically that cure of disease was to be accomplished only by a successful petition to the proper saint. Naturally enough, in the face of the terrible epidemics that ravaged Europe in the middle ages, all hygienic measures were neglected; even the hygiene of the Pentateuch was forgotten, and the pestilence had its horrid way where ignorance and superstition invited it and filth fed it fat. And yet Hippocrates, four hundred years before Christ, had distinctly taught the natural causation of disease!

Continually opposing the supernatural explanation of disease, the Jewish and Saracen physicians helped to drive the supernatural explanation out of science. Here, I think, is the essence of the success of these heretics in science; and here, also, is the secret of the hostile attitude which the church has assumed and still assumes toward physicians and their science. The issue was joined early in the middle ages and it remained a matter of strife and martyrdom until recent times. The church was positively opposed to the cure of disease by other means than by miracles, prayers, and the salutary power of certain precious relics. At length it became impossible for a devout Christian to practice his profession in peace with his church and his conscience; and thus came about a state of affairs, which would else be incomprehensible, such that in the eleventh century nearly all the physicians in Europe were Jews. Pope Boniface VIII. had for his medical adviser the Rabbi Isaac; Alphonso of Castile had at his court the gifted and learned Mascha; Charles the Bald kept the eminent Zedekias about him. And so it was for many years in spite of laws and sermons.

The time is lacking to sum up the prodigious services rendered our art and to their art by these heretical doctors. It is within my scope to-day only to impress upon you the fact that they were men of marvellous versatility, the fit successors of Averroes and Maimonides, and that in general wisdom and in the fruitful love of wisdom they far surpassed their evil times. They constituted a noble aristocracy of intellect which continually increased its power and influence. In Italy and in France the Jewish, Arabian and Greek philosophies met and mingled, always propagated, as they had been on the Euphrates, chiefly by physicians. At Salerno, where the Saracens established the first medical college in Europe, instruction was given in Hebrew, Arabic and Greek.

At length the church showed its power and its alarm. The atrocious persecution of Jews and Saracens in Spain compelled the departure of the best men of that unhappy and self-accursed land. From Spain many of them went abroad into neighboring countries. In the year 1300 Profatius, an eminent Jewish physician, was appointed regent of the University of Montpellier. Though a man of just renown, skilled not only in his profession, but such an astronomer and mathematician as to compel the praise of Copernicus in a later day, he became the victim of a general law which was quickly aimed at him and his faith. The Jews were expelled from France in 1306. The faculty of Paris, as if to double this infamy, issued a decree forbidding either man or woman of the religion of Moses practicing medicine upon any person of the Catholic religion.

The Jews and Saracens were the victims of the most cruel and hasty banishment, but the whole medical profession fell at once under the suspicion and reprobation of the monks and priests who then infested Europe. It became a proverb that where there are three physicians there are two atheists. It was asserted in holy cloisters that the physicians who stayed were not a whit better than those who were robbed, whipped, flayed, burned or banished. And so it came about that as far back as we can clearly read or painfully spell the bloody page of history, we find physicians characterized by that fearless doubt, that eager curiosity, and finally, that firm and scientific knowledge which has distinguished the best men in all times, and which now distinguishes the best of all the centuries. After the expulsion of the Jews and Saracens from southern Europe, the medical profession still maintained the characterter which the Jews and Arabs had impressed upon it. For at least two centuries it was always far in advance of the general grade of intelligence and conscientiousness. It was always bold and restless to the very verge of heresy. It was ever preparing the way for the splendid and revolutionary discoveries and reforms of the fifteenth and sixteenth centuries.

Coming down to this era of discovery, we find that the shape and size of the earth and its positions in the heavens were subjects of eager inquiry. Astronomy and the crucial facts brought forth by the early navigators were sufficient to prove the rotundity of the earth to men of science; but it was a physician, Fernel, attached to the person of Henry II., of France, who, in 1527, attempted the measurement of a degree on the face of the earth, and, to the common intelligence of that time, did much to prove the shape and size of the earth. Observing the altitude of the pole at Paris, he proceeded to the north until the pole-star had apparently ascended one degree toward the zenith. Meanwhile he measured the space passed over by counting the revolutions of his carriage-wheel. Upon these data he determined the length of a degree and the circumference of the earth at a time when the highest ecclesiastical authorities declared the earth to be flat and when the more ignorant pulpit-orators maintained that it *must* be flat because the inhabitants of one side of a round world could not see the Lord descending through the air!

Long before this time there was born in Prussia one who was destined to grow up into the ideal physician, and who was also destined to advance the knowledge of the size, position and motion of the earth. I mean, of course, Copernicus. After taking his degree in medicine, he fell under the influence of Regiomontanus, the greatest mathematician of his time, and the young doctor became an ardent student of mathematics and of astronomy. After years of study in the Italian universities, he returned to the land of his birth, where his uncle, the Bishop of Ermeland, made him Canon of Frauenberg. From this time Copernicus gave one-third of his waking hours to the practice of medicine among the poor; another third he gave to the pursuit of astronomy, which always continued to be a passion with him, and the remainder he gave to the duties of his office. After long years of laborious calculation Copernicus addressed a very respectful letter of dedication to the Pope (Paul III.), and published his results without giving his processes and method. He taught that the sun was a stationary centre of our planetary system, and that the earth, with the other planets, revolved about the sun. It is very probable that he anticipated the very hot opposition which his doctrine would arouse, for at the conclusion of his dedication he stoutly says: "If there be vain babblers who, knowing nothing of mathematics, yet assume the right of judging on account of some place of Scriptures perversely wrested to their purpose, and who blame my undertaking, I heed them not, and look upon their judgment as rash and contemptible."

His work was published in 1543. It is a pathetic fact that, though he saw his published work, he was too ill to turn its leaves, and he died a few days after it was shown to him. Thrice happy Dr. Copernicus to die peacefully at home, clasping the perfected results of thirty-six years of toil and thought! The days were at hand when the heliocentric theory was rank heresy and heresy was death!

When its mathematical proofs were set forth the Copernican theory made headway, slowly but surely, among all men of learning. Soon Galileo with his little telescope began to search the heavens and there find abundant confirmation of its truth. He did much more. He found that the moon had its valleys and that the sun had its spots, and thus he overthrew the fantastic doctrines of the perfection of the heavenly bodies. He found forty fixed stars in the Pleiades, and unnumbered stars in the darkest parts of the heavens. Thus showing the immensity of the universe, he disposed of the doctrine that the universe was merely created to be the scene where man might strut out his little play under proper supervision. Ingenious opponents of Copernicus had objected that if the planets revolved about the sun, then the planets should show phases like the moon. Galileo showed with his little telescope that Venus did indeed have phases like the moon. He also discovered the satellites of Jupiter, and there, about that giant planet, he exhibited a little Copernicum system.

Recounting all these splendid astronomical discoveries, we must not forget that Galileo was a student of medicine for five years. He studied at Pisa, under the wonderful Caesalpinus, and, though he took no degree, he was a doctor of medicine from first to last; and I do no violence to the truth when I add him to my gallery of illustrious physicians. When he discovered the isochronism of the pendulum's motion, he did not at first think of its application to astronomical clocks, but to the counting of the pulse.

In 1613, when his discoveries had fairly turned the world of science upside down, Galileo addressed a sort of opên letter to the Abbe Castelli, wherein he was guilty of the sin of asserting that the Scriptures were not intended for scientific authority. Violently attacked for this opinion, he reiterated it in the plainest terms, and added that they were intended for our salvation only. Hundreds of pulpits opened their batteries upon him. He was haled to Rome to answer before the Inquisition. He was accused of teaching that the earth moves; that the sun is stationary, and that these views are consistent with the Scriptures. Lacking the stubbornness which is said to belong to doctors, he made a full recantation and promised to promulgate no more heresy, though it was permitted him to hold these views hypothetically.

The church treated him far more kindly than the Inquisition or the Dominican order. Paul V., and after him Urban VIII., admitted him to many audiences, assuring him of personal safety, and one occasion he was sent to Florence with a letter of introduction in which a pope sought to convey to the Duke some expression of the high regard in which he held the persecuted philosopher.

So flattered by the very head of the church, this gentle and impolitic doctor, at the age of three score and ten, put forth another Copernican book, entitled, The

System of the World. He had forgotten the silken glove and the hand of steel. Clothed in a penitential garment he was compelled to abjure again the doctrine that the earth and the other planets move around the sun. The publishers of his books were punished. He was strictly confined to his house after a period of confinement in the jail of the Inquisition. His favorite daughter, who had made him a home, died and left him lonely. A sister-in a law came to brighten the darkness of his life, but she and her children died of the plague. The poor old man could not die, although his health failed him utterly. He begged permission to go to Florence for medical aid, but it was refused him for five years. After that time he was permitted to go on condition that he would not see his friends, nor leave his house, nor attend mass in Passion-week without a special order!

Even under this terrible rigor, the old man made important discoveries, and the Grand Duke of Florence instructed his ambassador at Rome to plead that Galileo might be permitted to communicate these discoveries to some person of undoubted orthodoxy, such as the good Castelli. At once Galileo was commanded to leave Florence and return to his old home. In 1637 he became totally blind, and it was then that the Inquisition gave him permission to see his friends! He wrote of this affliction: "So it pleases God, it shall also please me." Soon afterward he became totally deaf. Still a prisoner, in absolute silence and darkness, this wonderful old man occupied himself with researches on the force of percussion, and waited for his death.

When the fearful tragedy of his gentle life was over, the Holy Inqusition refused him burial in consecrated ground. The Pope prohibited his friends from raising a monument to him in the church of Santa Croce. It was only in the nineteenth century that his countrymen, desiring to honor his name, were permitted to honor themselves by the erection of a monument over his sacred dust.

To you who have studied the endless conflict—and, let me say, the causeless and senseless conflict — between science and religion, it will be no matter of astonishment that the grand discoveries of Galileo were opposed at first; but there is no explanation of the fact that they were opposed, and the atrocious persecution of the discoverer was continued for so long a time, and until a full generation after, learned men, in and out of the Church, had accepted all that Galileo taught. For, long before his agony was over, it was settled that the earth was not a central point in the heavens, but merely a wee little planet, occupying no dignified position, in one of the smallest solar systems.

But the world must thank physicians not alone for the full knowledge of the size, shape, and position of the earth, but also for a knowledge of her structure and history. In the fifteenth century Leonardo da Vinci, who was eminent in everything, and pre-eminent in painting, maintained that certain fossils which came under his notice were real shells, and not, as the monks taught, mere exhibits of exhaustless creative power. Two years before da Vinci's death, a certain Italian, Fracastoro, wrote a little book on the fossils which were to be found in the quarries near Verona. About this time it began to be the fashion, especially among physicians, to make collections of curious stones and petrifactions, but they were not understood; and for more than a century after da Vinci's time there was no scientific knowledge of rocks of any sort.

Late in the seventeenth century a learned Dane, who had wandered far and studied long in the great centers of medical learning, had become a professor in the University of Padua. He bore the name of Steno, which we meet on many pages of our anatomies. In 1669 he published the first valuable, because the first systematic, treatise on the fossils of his adopted home. He pointed out that certain rocks appeared to have been formed anterior to the appearance of life on the earth, and here he introduced a principle of classification which has proved very valuable in geology. He set himself to the task of proving the identity of certain fossil teeth with those of living sharks. His book showed clearly and by reasoning which modern geology approves, that certain fossil species are younger than others. It seems to me that the Danish doctor left few ground-principles for later geologists to discover. It remained for them only to make a more curious and complete study of the means which nature employs in her geological work.

Within a short year after the issue of Steno's book, Scila, a Sicilian painter, issued a little treatise on geology. It is only valuable for the excellence of the engravings of a few fossil shells and corals.

In 1683 an English physician who bore the now famous name of Lister, proposed the construction of a geological map on which the different sorts of soil and rock should be portrayed by different colors. To-day, when such maps are as common as primers, it is not easy to appreciate the striking originality of this English physician, who attempted to delineate the geology of his native island at a time when it was hardly settled that the components of the earth's crust were arranged in any orderly fashion.

Near the close of the last century, Dr. Robert Hooke took up the subject of earthquakes, and treated it in such a manner as to throw great light on the nature of fossils, especially marine fossils, and the effects of earthquakes in elevating the bed of the sea. This was at a time when the infant science needed not only his researches, but the countenance of this philosophical physician, who had attained greatness as a chemist, mathematician, and architect.

But Italy, the mother of geology, still fostered it beyond all other countries. A splendid Italian physician, Antonio Vallis neri, a student of Malpighi, and a busy professor in the University of Padua, found time to compose a noble treatise on fossils, illustrated in the highest style of the times. This was previous to the year 1721.

To Buffon, who was not a physician, must be allowed the credit of clearly expressing, for the first time, the grand idea that the earth, which we call a stable affair, is a molten mass of rock within. This doctrine, obscurely set forth by Leibnitz and Descarte, was presented by the dashing Buffon in a manner so clear that it took possession of geologists, and broke down at once a great many geologic errors.

But no mention of Buffon is quite fair which does not take into account his other self, the modest Dr. Daubenton, who is often alluded to as "the eyes of Buffon." He was practicing medicine in his native village, which was also Buffon's native village, when the great naturalist called upon him for aid in his anatomical descriptions. Their union was for life. It required the two complementary men to make one great naturalist. Buffon was rash, violent, impatient, imaginative, and gifted with a power like divination; the good and gentle Dr. Daubenton was patient, cool, judicial, industrious, and almost destitute of imagination. At one time jealousy led Buffon to cut loose from his collaborator, and at once it was perceived that the current volumes of Buffon's great Natural History were lacking in precision and scientific value, while the good doctor flooded the academy with memoirs recounting his original work. The unholy divorce was not of long duration; and when the great name of Buffon is met, we may think of the modest doctor who worked with him, content to be overshadowed by the more dashing genius.

Flourens also said of Daubenton, that one of his memoirs absolutely destroyed the monkish teachings concerning the enormous bones which have been found in the tertiary formations of France—bones which had long excited the wonder of the unlearned. It had been taught that those were the bones of giants alluded to in the Scriptures, and sometimes the myth was varied, to assert that they were rained down from heaven. But Dr. Daubenton, at a time when there was no such science as comparative anatomy, dissolved the wonder by showing that these were the bones of animals allied to living species. Compelled to generalize for himself, he freely checked alleged geological facts by the truths of comparative anatomy; and in this line of work he anticipated the Cuvier brothers by years.

Toward the close of the last century, Werner, a German mineralogist, struck out a comprehensive theory to account for the structure and position of rocks. In a primeval sea, he supposed, a sediment was precipitated, which gradually formed what we call the primitive rocks—granite as the type of all. This was at first a tranquil sea, but after a time the waters ceased to be calm, and the sediment thrown down became stratified, or differentiated. Afterward the surface of this primeval sea became convulsed with terrific tempests, which wore down the rocks, and amid these tempests life appeared, and the sea began to retire. You will perceive that this flight of fancy simply assumed a cause for all geological phenomena, and then introduced suitable facts in a suitable order. It was an attempted deduction when an induction was needed, though possibly suggested by a powerful and daring imagination like Werner's.

In Werner's time, over in Scotland, Dr. James Hutton, who at the bedside had learned to make inductions, gradually came to the opinion that we are not to account for the structure and position of the older rocks by the influence of water, but of fire. He inspired a wealthy friend to costly experiments, which showed that the production of artificial basalt was easily possible by the fusion of the constituents and by cooling the mass under pressure. Soon after, in the Grampian Hills, he found many points where the granite branched out from a main body, and insinuated itself into fissures in the neighboring slates and limestones. Dr. Hutton drew about him a great number of medical friends, who became enthusiastic and successful geologists.

After the lapse of a century, we may look at the theories of these two great rival theorists without prejudice. The Scotch doctor came far nearer the truth, and far nearer the probable origin of the older rocks, than Werner; and it has been often remarked that his theory tallies perfectly with the nebular hypothesis, which tallies with all we know or dream of the origin of the universe.

During the hot controversy that raged between the two camps of geologists an hundred years ago, it was perfectly plain that Werner was endeavoring to translate the bible of the rocks in such a manner that it would tally with the most literal reading of the Scriptures. Hutton, like Galileo, was not troubled about the Mosaic account, and even in Scotland went so far as to say: "In the economy of the world I can find no traces of a beginning, no prospect of an end." The Protestant forms of persecution were at once set to work. The air became "black with sermons." Hutton was deemed an enemy of religion and of his accursed race, merely because he could find no rocks strictly entitled to the name *primitive*.

In France, at the end of the last century, geology was cultivated with the greatest enthusiasm, and chiefly by physicians. In 1780 Guettard collected materials for a geological map of that country, and he was actually one of the two authors of the first map issued by the Government. As far back as 1751 this French doctor proved the geological identity of France and England. The next year he put forth a memoir on the volcanoes of France, and clearly showed their igneous origin. In 1755 he made an elaborate comparison of the rocks of France and Egypt, and so full were his researches of the so-called "practical" suggestions that they went a long way to relieve the science of geology of the odium which had been attached to it by the Protestant clergy; for, in antagonism to geology, Protestantism seems to have been emulous of the ill-fame which the older faith of Rome had acquired in its opposition to the great truths of astronomy. Guettard, also, was the first to show that a certain sort of clay, found near Alencon, was identical with the Chinese kaolin; and this discovery also helped to put geology on a respectable, orthodox, paying basis. From this discovery sprang the manufacture of pottery in that part of France, and from this local manufacture sprang the whole splendid porcelain industry of France.

Lamarck was another great French physician, who, by his labors and by the influence of his great name, assisted the new science of geology. In order to admit fossil shells which had been collected by Defrance in the quarries about Paris, he actually reconstructed the whole system of conchology.

Toward the close of the last century, strange monsters began to be discovered and to be known by their fossil remains. In almost every case they were turned over to the doctors for classification. Sir Everard Home was the first to see the relationships of the ichthyosaurus and its nearest allies.

Bichat, a physician, and the son of a physician, was the first man of science to perceive that the structure of the tissues of animals is as subject to law and to classification as the external form. In this direction the busy young doctor, who died of overwork in his profession, outran the great Cuvier, who was seeking the same law. This generalization of Bichat is of the greatest importance in paleontology, for geologists deal so much with fragmentary fossils, and only rarely find complete petrifactions of extinct animals. It was the general law which Bichat discovered that gave Agassiz the heart to classify all fishes by their scales, and gave Owen courage to classify vertebrates by their teeth.

A clear connection between the forces we call volcanic and those which in former geological ages gave rise to the primitive rocks was clearly established by Dr. Daubeny, of Oxford, who took up the subject in 1824, and prosecuted his studies over the whole of Europe, and a great part of our country.

Of more recent geologists we have no time to speak at any length. Thousands of fossils bear the names of physicians who have been busy in the field and in the closet. The first organization of a geological society was chiefly due to the efforts of one man, Dr. William Babington, of Irish birth and English breeding, who, about 1810, laid the train that gave us the great Geological Society.

The action of glaciers has been best studied in their geological aspects by a physician whose greatness in many departments of science leads us to forget oftentimes that he was a man of medical training. I allude to the older Agassiz.

If we turn now from geology to her handmaiden, minerology, we shall find that there was no classification of rocks until Avicenna, the Arabian physician, made his four groups of minerals in the eleventh century.

Agricola, who was practicing medicine in 1527, devoted the latter part of his life to the study of mineralogy and metallurgy.

In 1730, Von Bremel, a pupil of Boerhaave, attempted a more perfect classification of minerals than had yet been made.

Dr. Henckel, of Saxony, was an enthusiastic minerologist, and was one of the first to attend carefully to the external forms.

Linnæus, who was a physician, made the best possible classification before the recent development of the science of chemistry. He was the first to attempt a crystallagraphical classification.

It was Fuchs, a physician, who first perceived that in a mineral one chemical constituent might sometimes be replaced by another without altering the essential characteristics of the mineral. In other words, he had discovered the principle of isomorphism. His pupil, Mitscherlich, long a student of medicine though never a physician, worked out the theory of isomorphism more completely.

In the later days the science of mineralogy has become partly a chemical and partly a mineralogical crystallographical science. We shall see that chemistry is to a very great degree a science that has been advanced by physicians. The crystallographical aspects of mineralogy have been chiefly developed by Werner and Abbe Hauy, who were not physicians, but all the nicer measurements of the angles of crystals were made, and must be made with the ganiometer of our Dr. Wollaston.

If, now, we allow ourselves to discuss the history of the science of living things, animal or vegetable, we can only make a catalogue of the names of hundreds of great physicians who were great observers or great describers. Already, in our brief account of the development of geology, we have named men who were great in medicine, in geology, and in the knowledge of living things.

To these we must add a few of the most distinguished names.

Pare is distinctly alluded to by Cuvier and other zoologists, as the first of comparative osteologists.

Pallas, a physician and professor of medicine, of Berlin, was a zoologist and geologist of the first rank. His extensive travels were accomplished toward the close of the last century, and he is constantly quoted by Cuvier and Humboldt.

About the same time, Oken, a physician and professor of medicine, developed the very important idea that the cranial bones are modified vertebræ. Goethe was in the audience when Oken developed this idea in his inaugural address at the University of Jena, and years afterward Oken was accused of stealing it from Goethe!

In the last century, also, there lived and worked a physician of giant mind — the great Haller—who was called the father of physiology, but who was great and original in zoology, in botany and in poetry.—Schlosser has said of him that he dissipated the obscurity of the Middle Ages, that he excluded theology from the science of nature, and that he enlightened the whole life of man.

Ehrenberg, also, was a great physician and a great zoologist. Before he began his special researches with the microscope in 1829, it was thought that the infusoria were scarcely organized at all; Ehrenberg showed that they had stomach, intestines, teeth, glands, nerves and eyes. By the year 1840 he had showed that many kinds of earth considered amorphous were really composed of the remains of infusoria.—Within another nine years he had detected the presence of animalcules in the water of phosphorescent seas and in the atmosphere.

But we have passed by John Hunter. He begged the dead animals from traveling menageries, and from the menagerie in the Tower of London. For purposes of study he kept pheasants, partridges, eagles, silkworms, bees, hornets and wasps. Jenner, who, by the way, was no mean naturalist, sent him continually supplies of fishes, lizards, hedgehogs, blackbirds, and other animals. For twenty years he kept a flock of geese, in order that he might use their eggs for the study of animal reproduction. He sent a surgeon to Greenland to learn certain facts about the reproduction of whales. He secured the skeleton of O'Brien, the Irish giant, by stratagem, and at a cost of £500. Ten years before his death his collections had already cost him £10,000. He carefully dissected more than five hundred species of animals, and he confirmed many of his discoveries by repeated dissections of the same species. He left 3,000 specimens of a zoological nature, to say nothing of 3,700 fossils, and a wonderful collection such as belonged more strictly to his profession. It has been said of him that he drove the Noachian deluge out of geology, and with it went the catastrophic explanation of geological phenomena.

But if, now, we were to yield to the temptation to make a parade of the great physicians of this century who were and are great zoologists, we would consume hours in summing up the prodigious services of the Darwins, of Owen, of Huxley, of Forbes, of Leidy, to say uothing of the lesser lights of the galaxy.

I know that I shall be equally tedious if I attempt to tell you at any length of the great botanists who were also physicians. Let us, therefore, touch lightly on this subject.

The very first classification of plants was that of our great teacher, Cæsalpinus. He distributed the 1,520 plants which were recognized in his time and locality, into orders,-chiefly by attending to their fruits.

About this time, Brunfels, a physician of Berne, published an illustrated History of Plants. Previous to the publications of these two physicians, there were no books worthy the name of botanical treatises, though we may boast that all that existed were the ancient herbals, written chiefly by physicians; and with a strong squint toward therapeutics.

It was a physician, Camerarius, who first pointed out that plants had sex. The ancients had made poetical statements of the same truth, although they probably did not know that it was a truth.

Tournefort was a physician.

Boerhaave was as great in botany as in medicine.

No valuable classification of plants was made until Linnæus, a physician, took up the subject of sex in plants, and made that the basis of his classification. He clearly perceived that his system was only provisional, and that there must be some day a natural system.

Ten years before Goethe took up the subject Linnæus perceived the essential truths of the metamorphosis of plants.

DeCandolle, who more than any other botanist, introduced the system of Linnæus into Southern Europe, was a physician.

Schleiden and Schwann, who developed the important truth that plants as well as animals are composed of cells, were physicians in the early part of the last century. Long previous to them, Doctors Hooke, Malpighi and Nathaniel Grew, had worked at the minute anatomy of plants.

The great Jussieu, who established the modern or natural system of classification of plants, was a physician. His father was a learned apothecary. His brothers were eminent physicians and botanists, as was his son, also.

And now turning to those sciences which include our knowledge of the molecular forces, we find that physicians have been great discoverers and creators. The very fathers of chemistry—the alchemists—were for obvious reasons, physicians for the most part.

Nitric and sulphuric acid, those powerful reagents, without which there would be no chemical analysis, were discovered by two Arabic physicians, late in the eighth century.

It was Cardanus, a physician and teacher of medicine, who noticed the increase of weight that accompanied the oxidization of lead, and who attributed this increase to the escape of a "celestial, fiery matter," which, combined with the metal, gave it a certain levity. An hundred years later, Beccher and Stahl, two physicians, observed a similar phenomena, and endeavored to explain them by a similar hypothetical substance, which, before it was driven off by heat, caused lightness. They gave the name of phlogiston to this hypothetical substance, and the theory which they elaborated served a good purpose in preparing the way for another doctrine which we hold to-day, and which was also worked out by physicians.

Early in the seventeenth century, Van Helmont, of Brussels, a physician, had come to an accurate conception of a gas, and had carefully studied the evolution of gases from heated bodies. In 1755, long after he had prepared the way, Dr. Black, on the occasion of his graduation at Edinburg, showed that in what we call the carbonates of the alkalies there was a certain "fixed air," which we now call carbonic acid gas. This discovery of fixed air was very suggestive to Priestly and Lavoisier, who, studying gasses with greater interest, came upon the discovery of oxygen, and the true nature of the process of oxidization.

We should record also that the first clear statement of the cardinal fact of chemical affinity was made by a physician, Sylvius, whose name is familar to students of anatomy, and who practiced medicine, in Amsterdam in the middle of the seventeenth century. In 1718 Geoffroy, another physician, made a clearer statement, and published tables to show the relative affinity of a great many substances.

In the latter half of the last century an Italian physician in Bologna altered the interpretation of all chemical phenomena. For twenty years a professor of anatomy, Galvani, had studied the contractions which take place in the muscles of frogs' legs under the stimulus of a current of electricity sent through them by the contact of two dissimilar metals. As in the case of Columbus, it was not given to Galvani to know the full meaning of his discovery. While he was still working at it, a cruel invader crossed the Alps; it was demanded of all professors that they should swear allegiance to the new government set up by the invader. Galvani, refusing to do this, was thrust out of the University, nor was his professorship restored to him until after many weary years of illness he was restored to his chair, a dying man.

Volta, more subservient to the French invader, went to Paris to be the pet of the Emperor, and to push on the researches of Galvani.

The most important improvements of the Galvanic battery were developed by physicians, most notably by Drs. Wollaston and Hare.

At the beginning of this century water was analyzed into its component gases, and men then perceived that the forces of electricity and of chemical action are related.

In 1820 Dr. Hans Christian Oersted a Danish physician, made the discovery for which the world was ready and waiting, that electricity and magnetism are reciprocal and convertible forces.

Following closely upon this discovery came other experiments and hypotheses, whereby it was made clear that all the forces of nature are simply results ef molecular activity; that they are convertible into each other, that they are never destroyed, and that when converted one into another, they are converted at a certain fixed ratio.

This doctrine is only a revival and an elaboration of a truth which was announced by our good doctor, Galileo. For while he developed the knowledge of the motion of masses so perfectly that he is often said to be the author of the mechanics of motion, he also speculated concerning the motion of molecules. He distinctly taught that heat is a sort of motion of the minutest particles of matter. This doctrine was, of course, smothered out by the doctrine of phlogiston, and it was not until the time of Rumford that it was revived.

Precisely similar is the history of the scientific knowledge of light. Our ancient doctor, Aristotle, had taught that "light is not any body, nor an emanation from any body, for that would be a kind of body, and that, therefore, light is an energy or an act." Two hundred years ago Dr. Hooke was of the same opinion, and his notions were still further elaborated by Huyghens, who was not a physician, but who had at his elbow the wonderful physician and seer, Papin. While able men were rescuing the subject of heat from the grip of the old metaphysics, Thomas Young was studying medicine at the University of Edinburgh, and it was this young physician who was destined to rightly interpret the philosophy of that force which we call light. Great in everything he touched, from the practice of medicine to the deciphering of heiroglyphics, Young attacked the emission theory of light, which Newton himself had adopted, and drove it entirely out of physics.

Then it was, and chiefly through the discoveries of physicians, that the truth slowly crept in that heat and light were similar and convertible forces, and then at last came the full truth that they are positively the same sort of molecular motion.

Just here we must not forget the services of Dr. Black, who by his researches on latent heat showed that heat could not consist of any ordinary matter. In idealizing or spiritualizing the supposed substance, he prepared the way for the full truth that it is no substance at all.

Nor must we forget our transcendental Oken, the same who first perceived that the skull is made up of vertebræ. As early as 1808 he announced a theory of light, heat, and the other forces, which, however fantastic, has in it a clear statement of the corelation and equivalence of forces.

In 1837, Mohr, a man of medical training, and a skilled pharmacist, published a paper — long forgotten—in which he very clearly set forth the modern doctrine that motion, chemical affinity, cohesion, electricity, light, heat, and magnetism are the same, and that from any one of these forms of force any other may be produced.

As early as 1842, Dr. Mayer, of Heilbronn, spoke of the indestructibility of force. He applied the theory of the equivalence of heat and of motion to explain a number of natural phenomena which are not to be explained on other grounds.

Convinced that there was a mechanical equivalent for heat, he attempted to determine it experimentally, but lacking the means for proper experimentation, his experiments are of less value than those made by Joule, a wealthy English brewer.

In 1845, Grove, an English lawyer, handsomely grouped the separate truths which had been developed up to his time, pertaining to the corelation and conservation of forces. He was able in generalization, but he made no discovery.

In 1848, our busy and gifted Dr. Carpenter proposed to extend the law of the convertibility of force to electricity, to vital force, and to the nerve force of animals. Two years afterward he proposed to extend the law to all manifestations of force, without exception.

Our Helmholtz, a second Carpenter, a life long physician and teacher of physiology, has been a busy worker in this direction.

Liebig, who worked long with an apothecary, and graduated in medicine at Erlangen, was the first to announce that in every case of motion in an animal, there is a disintegration of muscular tissue, and a proportional chemical change.

It was Dr. Seebeck, of Berlin, who first observed that two pieces of metal might be so arranged as to generate an electric current when exposed to heat. He was so fortunate as to show the correlation of two forces, and to present experimenters with an instrument, the thermophile, without which the more delicate researches on heat would never have been made.

And so has it been in every department of human activity. In exploration we proudly name Livingstone, Kane, and Hayes as the greatest among a host of physicians who have made our profession glorious.

He who stole from the Indians of the plains the idea of communicating intelligence by signals, was Dr. Myer, a graduate of the Medical College of Buffalo. Afterward, greater in the arts of peace, as a physician should be, he developed and perfected the whole system of the prediction of storms, in America, and he stirred up the governments of the world to systematic meteorological observations which are still going on. His nick-name of "Old Probabilities" will live forever; let not his name perish.

Without a careful survey of the field I say on the spur of the moment that out profession has given to English literature the strictly classical works of Sir Thomas Browne, Goldsmith, Keats, Beddoes, John Brown, Oliver Wendell Holmes and Richard Grant White. What other tongues have been enriched by the purely literary labors of physician, I am not competent to tell. I only remind you that whenever a Frenchman wishes to write anything about anything he turns either to the dictionary of Littre or to his essays; for that wonderful man and physician had apparently covered the whole realm of knowledge with his writings and his incredible labor.

If I ask you who looks after the insane, the idiotic, the imbecile, the inebriate, the incorrigible youth, the blind, the deaf, you will answer without debate that the doctor does this, and that he has almost had a monoply of common—sense in the management of the criminal classes.

And now, gentlemen, after this survey of the services physicians have rendered to mankind by propagating general learning, I ask, When was the debt repaid? When did general learning cross the line and give us useful hints much less discover one great principle of physiology or of therapeutics, or a single important fact in anatomy?

At a time when Europe was in an intellectual ferment, when great men were busy in the church, in the state, and in the law, when artists were doing unrivalled work with brush and chisel, and when poets poured forth a rich and varied flood of song, our profession waited for a certain important discovery to illuminate much that was dark. Our profession waited long, I say, for the doctrine of the circulation of the blood, but no one crossed the line, from the other provinces of learning, to aid us in the grand discovery. It was no lawyer, no ecclesiastic, no man of letters who corrected the ancient error that the arteries carried air; it was Galen, the physician. It was Vesalius, another physician, who took the next step, and showed that there was no communication between the right and left sides of the heart. It was Servetus, a physician, and a theologian, (woe worth the day!), who traced the lesser circulation. Columbo and Cæsalpinus, two eminent physicians described the course of the blood through the lungs, and the latter of these gave us that pregnant phrase, "the circulation of the blood." It was Harvey, a physician, who summed up all that had been done before him, who made his hundreds of vivisections, and, by many years of experiment, and the most ingenious induction, at last arrived at the full truth that there are two hearts in one; that from each heart a stream of blood constantly issues to flow through the lungs, from one, and through the body from the other returning again to make its ceaseless rounds. And finally, when the microscope was sufficiently perfected, it was Malpighi, a physician, who first actually saw the blood coursing through the capillaries in a frog's lungs, and, soon after, Leeuwenhœk saw the same beautiful phenomenon in the passage of blood through the membranous expansion of a bat's wing.

You will not tell me that men outside of our profession were lacking in the logical power to deal with the facts, and hence gave no assistance. They were cursed with logical power and their dialectics were so fine-spun that at that very time they split the faith of christendom into the hundred incompatible christian creeds that afflict the world to-day. Nor will you tell me that learned men of that age were not of the firm stuff that could endure the dissection of dead animals or the vivisection of the living in the pursuit of truth. They seduced De Dominis to Rome, and when he died there of disease before the time was ripe for his martyrdom, they took him in his coffin, tried him for heresy, and burned his corpse for heresy with his books. I think those men, besides being men of some subtlety, were not too nice to deal with the cadaver. In Southern Europe, they dug out of the earth the bones of hundreds of heretics, put them on trial for heresy, and burned the festering stuff, in the name of religion! You will agree with me that these were not too tender to touch carrion.

Nor was it any sweet sympathy with the sufferings of animals that deterred the more learned men of the 16th, and 17th centuries from coming over to the help of experimenters in our profession. It was as late as 1601 that a horse that had been taught many tricks by his master, was put on trial at Lisbon, found to be possessed of the devil, and was duly burned. A sow, soon after farrowing, had eaten a baby, in another part of Europe, and was condemned and burned for I cannot tell you what sort of possession. If the executioners of these poor beasts were unfit to assist in the development of the great truths of our science and our art, believe me it was not for any excess of sympathy with the sufferings of the lower animals.

I charge against the learned men of this time also that they hunted Servetus all over Europe for many years, Rome and Geneva joining in the chase, like blood-hounds that cease fighting to run down noble game. You know the end of the career of this physican. He was burned at Geneva, by a protestant pope, with a fire of green wood. He cried out to Jesus, the Son of the Living Son of God; and it is a matter of history that if he had consented to call upon Jesus the Living Son of God, his martydom might have been interrupted, and the discoverer of the lesser circulation might have rejoiced in the discovery of the greater, also. To the slow fire that consumed him, they added every copy that could be obtained of his books, and so thorough was the search, that, to-day, there exist but two copies of that book which records his most notable discovery and assures his fame. If your imagination will permit you to dwell upon a scene so infamous, you will agree with me that the executioners of Servetus were men of some nerve, and capable of some nice logical processes.

About the time of this murder, Dr. Andrew Leighton, of Scotland, held theological views which were not in accord with those of the episcopacy. The Star Chamber slit his nose for the glory of God. They cut off his ears for Christ's sake. They kept the man so mutilated, in prison, for eleven years, to see the error of his ways. They turned him out upon the world, a lunatic, after this long-drawn punishment was over. Compare this, if you please, with the vivisections of Harvey!

I might turn again from the one greatest discovery in our art, and ask where were the theologians when the ligation of arteries was proposed for the arrest of hemorrhage or the cure of aneurism? What metaphysician gave us the knowledge of antiseptic surgery? What lawyer told us of the subcutaneous section of tendons, whereby hideous deformity and lameness are removed? What man of letters, or science, told us of skin-grafting? What artisan gave us the beneficent invention of plaster-dressings for fractured limbs? Was it some non-medical naturalist who stole from the serpent's fang the idea of the hypodermic needle which makes us master of so many emergencies, and dulls the edge of agony? Nay, if we speak of agony, who but physicians and dentists worked out the problem of anaesthesia, which, happily solved, turns agony to dreamy bliss?

When the use of anaesthetics was proposed in surgery, the best common-sense of mankind opposed it, and when the use of it to mitigate the pangs of labor was proposed, the pulpits of Scotland thundered against an interference with a curse which the almighty was supposed to have pronounced against the gentler, suffering sex. So, by the way, was it when vaccination was introduced to drive from the earth the greatest scourge the earth has ever known.

Then I give to you gentlemen of the alumni, two thoughts to feed your pride. Physicians have enriched all sciences and many arts with their discoveries and inventions. On the other hand they have developed their own science and their own art, unaided, and amid continual opposition and persecution.

But let us not forget our obligations. *Noblesse oblige!* Heirs to an absolute patent of nobility, we are by it bound to do something for science, and to be something more, though it is impossible to be anything better than physicians.

And now, Gentlemen of the Graduating Class, our honored masters of the faculty have assured us that you have lingered long enough about the threshhold of the medical profession. The Alumni Association therefore bids you, Come in, and Welcome!

If you had no other sources of inspiration, (and I doubt not you have many), I might venture to hope that my poor recital of the great achievments of physicians would inspire you with high and lasting determinations to do something more than your exacting profession demands, for humanity and for learning.

If any one among you is destined to become a mere prescriber, and an unscientific tinker of the human machine, it were better for him that his mother's pangs had not brought him into the world, a man-child. If any man among you is destined to become a cute shyster, watchful always of his own ease and profit, caring nothing for the advancement of knowledge, nothing for virtue, nothing for his race, it were better for him and for us that his alma mater had never sent him forth, a physician.

But until time shall prove you, I welcome you to a life of great toil and endeavor, and to that school which, it seems to me, is best adapted to develope a true man. The awful secrets of the dissecting-room have already taught you that lesson which Saul of Tarsus learned by the hardest, that there is no distinction of clean and unclean. The awful secrets of the consulting-room will presently teach you a harder chapter of the same lesson,—that the distinction of two classes of mankind, saints and sinners, is one wholly artificial and pernicious. From this knowledge will grow, I trust, a boundless charity. I cannot doubt that, in the hospital and the physiological laboratory you have learned a reverence for life and a sympathy with suffering which only physicians ever know in all its intensity. Self-control, and modest self-reliance will be taught you as you face the terrible emergencies which will come upon you unforewarned. Patience will come with long vigils at scenes of suffering. Then with charity, with self-control, with self-reliance, are you not grandly equipped for noble deeds?

The rest is simply, work! You leave these halls with the keys of all valuable knowledge. They may rust in your possession, but I hope they will not; they may be petulantly cast aside at the beginning, but I charge you to keep them; put to their right use, they may unlock for you, perpetual chambers of wonder and delights, until at the end of the series you invoke other aid, and knock at the gate where our keys will not fit.

For at that gate you will some day knock, with gladness if you remain true to the ideal which you entertain to-day, and in life's calm afternoon there will certainly come to you the belief, (whether an article of faith, or a poetic impression), that

"Life is the jailer, Death the angel sent
"To draw the unwilling bolt, and set us free
"He flings not ope the ivory gates of rest,
"Only the fallen spirit knocks at that,
"But to benigner regions beckons us,
"To destinies of more rewarded toil."

PALATABLE PRESCRIPTIONS.

A Paper read before the Cincinnati Medical Society, April 22, 1884, by

JOHN L. DAVIS, M.D.

The physician of to-day with his instruments of precision, and aids of his own devising, can watch the various organs as they glow in health or struggle with disease; he is able to see and measure and paint the processes and read them as an open book. Physiology and pathology have made such remarkable progress in a few years, that now diagnosis may almost be numbered among the exact sciences; and it stands a magnificent monument to the physician's industry and skill. On the other hand, while contemplating this gratifying progress in one department of medical science, we are made aware of the slow advance in therapeutics, the application of remedies to the treatment of disease.

The modern scientific physician with his thermometer, sphygmograph and microscope is far ahead of the old-fashioned doctor in ability to make an accurate diagnosis; he can clearly map out the inflamed area of the diseased lung, and can explain the exact pathological signification of rusty sputa. But it is very questionable whether he treats the pneumonia with better results than his old style brother. It seems almost as if the physician in his effort to find out what disease is, has forgotten that his object is its cure. It has been humorously said, that the profoundly scientific physician of certain medical centers of Europe, makes an elaborate and laborious diagnosis and then sits at the bedside till the patient dies, waiting to verify his theory by a post mortem examination. The picture is overdrawn; but it illustrates a prevalent impression that more study is given to the discovery of a disease than to devising methods for its cure; that modern doctors care more for accurate diagnosis than for successful treatment. Our ability as physicians is estimated solely by results; a successful result is based not on diagnosis alone, but on diagnosis and treatment, and the second factor is no less important than the first. And I cannot but believe that if more time and skill were devoted to investigating the actions of remedies and the best modes for their exhibition, our success as physicians would be greater than it is. Where the patient's friends now feel called upon to admire the doctor's beautiful postmortem examination, they would then, I think, have more occasions for congratulating the patient upon recovery.

But taking our drugs as we find them, do we use them to the best advantage? Of course, for the administration of medicines that are contraindicated and for incompatible mixtures there can be no excuse. Yet apart from such glaring and obvious mistakes as these, every druggist's files contain illustrations of the most unpalatable preparations, unsightly and nauseous. These compounds may not be incompatible, but they are repulsive and should be avoided not only as productive of obvious discomfort to the patient, but from their tendency to shake his faith in the doctor; and, what is a more important consideration still, their very repulsiveness, through reflex action and mental influence may altogether destroy the natural and desired action of the drug. While such mortifying and inexcusable mistakes are made by physicians, you can hardly blame the public for using agreeable, and in many cases very valuable patent medicines; I would take them myself and so would you in preference to some of the horrible combinations which may be found on file in any drug store.

Pharmacists offer us various agreeable vehicles and methods for the administration of distasteful substances; in the shape of the elegant modern gelatine, or sugar-coated pills, elixirs and syrups; and they have ingeniously contrived wafers and capsules. But besides the recognized uncertainty of many of these preparations, pills and capsules are taken by some persons with such inexplicable repugnance, as to be altogether ineligible.

And in the case of some elixirs, the pharmacist in his laudable effort to secure a pleasant preparation, has overlooked the prime object of giving the drug, and by the addition of syrups and aromatics, has seriously modified its action.

It is with the view of suggesting agreeable and appropriate vehicles for some of the most repulsive drugs, that I offer the following prescriptions to which I ask your attention. They are the result of a great many experiments, and most of them I have used in practice and can recommend as the best combinations possible without modifying the drug in such a way as to affect its action. I have attempted to marshal these unruly drugs under something approaching order; though I confess, the classification is far from being a perfect one. A few drugs of each class will suffice to illustrate how the whole class may be improved.

1. *Bitter drugs.* These comprise a very large class of unpalatable medicines, the climax of bitterness is reached in the cinchona bark. The best prescription for masking the taste of quinine is—

℞. Quiniæ sulphatis..............gr. xxx.
Tinct. aurant. cort recentis...ʒ ij.
Ext. glycyrrhizæ fl..............ʒ vi.
Syr. simplicis...................℥ i.

Or it may be given with the aromatic syrup of licorice. Simply chewing a piece of licorice root before and after taking the quinine will very effectually hide its bitter taste. The same methods for administration apply equally well to most other bitter medicines. In the American Journal of Medical Science (1878) Dr. Samuel Ashhurst of Philadelphia describes an agreeable method for the exhibition of cinchonia. He uses the alkaloid rather than the more usual sulphate; for while being equally soluble in the stomach it is less so in the saliva, and consequently its bitterness is less marked than that of the sulphate. His prescription is:

℞. Cinchoniæ............gr. i.
Sac. lactis............gr. iv.
Natr. bicarbonatis...gr. 1-10

The soda renders the alkaloid less soluble in the mouth, while the sugar of milk gives it an agreeable, sweet taste. Children take this powder without the least aversion.

The thick, viscid elixirs of taraxacum is also a valuable vehicle for the administration of medicines. And finally it may be said of these as of all medicines that if taken very cold, or if a piece of ice is taken into the mouth immediately before the medicine the objectionable taste will be less marked.

2. *Salty and metallic drugs.* A large class of unpalatable drugs is included under this head. The best prescription containing iodide of potassium is the following:

℞. Potassii iodidi......................ʒ ij.
Tinct. aurant. cort. recentis...ʒ ij.
Ext. glycyrrhiz. rad. fl..........℥ i.
Syr. simplicis..........q. s. ad. ℥ iij.

Of this each teaspoonful contains five grains, and the iodide is so perfectly disguised that persons who have been accustomed to its use fail to recognize its presence. For this combination I am indebted to Mr. Julius H. Eichberg, the skillful and efficient druggist of the Cincinnati Hospital. The vehicle is eligible also for the administration of the bromide of potassium. A syrup of coffee is highly recommended to hide the taste of the iodide—fifteen grains to the ounce. The same vehicle can be used for the bromide, except in cases where the stimulant effect of coffee is to be avoided.

A simple and somewhat effective way for administering the iodide and bromide as well as salicylic acid is in milk—ten grains to the ounce. Another mode for giving these drugs is to use as the vehicle, slightly alkaline, carbonated water, either natural or artificial. This plan was proposed by Dr. Seguin (New Remedies. 1883, 195).

The syrup of the iodide of iron is a useful medicine which is best given simply with the fluid extract of licorice root; this is preferable to the ordinary succus glycyrrhizæ. A medicine peculiarly disagreeable to many persons from its bitter, salty taste is magnesium sulphate. The following prescription offers an elegant means for its administration:

℞. Magnesii sulphatis...ʒ ij.
Acidi sulphurici.......g ttv.
Glycerinæ...............gtt. v.
Aquæ....................aa. ℥ i.

Half of this in a glass of water constitutes an agreeable dose of an ordinarily repulsive substance. By the addition of a drop or two of mint the mixture becomes not only palatable but attractive.

3. *Astringent drugs.* Tannin is the repre-

sentation of a class of remedies repulsive by reason of an astringent, acrid taste. This may be materially improved by the addition of sugar of milk and aromatic powder. I have also ordered it with powdered licorice, which materally improves the taste. Salicylic acid may be given in powder the same way. When alcohol is not objectionable the following combination will be found useful and agreeable:

℞. Acidi saliciylici...gr. viij.
Spir. vini gallici..m. xl.
Syr. acaciæ........
Syr. limonis.......aa. mx.

Chloral besides having an acrid taste is burning and penetrating; and these qualities make it a most difficult substance to disguise. I have seen some alleged palatable prescriptions of this drug, in which the only thing disguised and perfectly hidden was the aromatic vehicle, the taste of the chloral being apparently reenforced and concentrated. The best combination containing this drug is a suggestion of Mr. Eichberg. It is this:

℞. Chloral hydratis....gr. v.
Glycerinæ............ʒ i.

Or, it may be still farther improved, thus:

℞. Chloral hydratis..........gr. xx.
Glycerinæ..................ʒ ij.
Ext. glycyrrhiz. rad. fl.ʒ i.

Each drachm of which contains six and two-thirds grains of chloral. These same vehicles may be used in giving croton chloral hydrate, a remedy which is remarkably beneficial is some cases of facial neuralgia.

Another convenient and agreeable vehicle is syrup of raspberry, a drachm of which covers the taste of three or four grains of chloral.

4. *Etherial drugs*. The syrup of raspberry is also valuable to conceal the disagreeable character of sweet spirits of nitre; when taken with this syrup in soda water the drug is not tasted.

Sulphuric ether is best given on a lump of sugar; chloroform has a hot burning taste, which is best modified by an emulsion; or it may be given with a large quantity of simple elixir.

5. *Odorous drugs*. A certain class of drugs is disagreeable more from odor than from taste. Such are carbolic acid and creasote, very repulsive to some persons. The unpleasant character of the former is fairly hidden by simple elixir, five grains of the acid to the ounce. The best way to give creasote is with simple elixir or syrup and madeira wine.

Iodoform has a very objectionable odor, and one method for disguising it, is the addition of tannin. The compound has a less disagreeable odor than iodoform, but this improvement is made by destroying the iodoform by the formation of a different substance. Such prescriptions of course are improper. The offensive odor may be removed by the addition of various substances, without affecting in the slightest the physiological action of the drug. The best combinations are the following:

℞. Iodoformi......ʒ i.
Nitro benzol...gtt iij.

℞. Iodoformi......ʒ i.
Ol. myristicæ.gtt ij.

℞. Iodoformi......ʒ i.
Eucalyptol.....gtt iv.

All of these prescriptions are excellent; the disagreeable odor is perfectly removed, while the properties of the iodoform remain unaltered. Some samples of these combinations prepared two years ago show as yet no trace of the odor of iodoform, though the activity of the drug is unimpaired. The odor may also be hidden, though less effectually, by oleum myrciæ (oil of bay) and tonka bean, or its active principle, cumerine.

In the New Remedies (1883, 181) is found this prescription:

℞. Camphor............ 5 parts.
Charcoal............10 "
Iodoform...........15 "

Of course here we have the additional actions of camphor and charcoal, which would not always be desirable. By the same journal (1880, 116) the oil of fennel is also recommended to cover the odor of iodoform, as well as that of musk. But for either purpose I prefer to use some one of the previously mentioned substances. Nitro-benzol constitutes an agreeable cover for the odor of turpentine. The following is a prescription which I have used:

℞. Ol. terebinthinæ......*m* x.
Mucilage acaciæ
syrupi... ....aa *m* xxv.
Nitro-benzol...........gtt. i.

In some cases turpentine may be best given in pill form. And the same may be said of many of the resins and gums.

Assafœtida is a substance which the Persians use as a condiment, to give their food a pleasant taste. Personally I should prefer to take it in a gelatine coated pill, which is the least disagreeable method for its administration.

Given in liquid form, it is an exceedingly repulsive drug, whose odor and taste can not be effectually covered. By the addition to the tincture of a drop or two of oil of orange, and a few drops of aromatic sulphuric acid to the dose, its nauseousness becomes slightly less obtrusive. This is somewhat preferable — if there can be a choice in repulsive things—to the ordinary emulsions, and mixtures containing licorice, tincture of orange, mint, etc.

Ipecac has a repulsive, acrid taste, even as a syrup. If, however, instead of sugar, glycerine is used in making the syrupy mixture, the objectionable features are materially improved.

6. *Oils*. Such oils as that of copaiba are best given in capsule. But some persons are so constituted as to be unable to swallow capsules, and for such our only refuge is found in emulsions, such as that of bitter almonds flavored with an essential oil.

Castor oil is most easily given with an equal amount of glycerine, and a drop of oil of cinnamon to the ounce. The oil is not recognizable, and the mixture has only the hot, sweet taste of glycerine, agreeably modified by cinnamon. This is the best way to give this valuable medicine to children. It is also readily taken by children when mixed with coarse brown sugar, and having the mass made firm by placing it for a few minutes on ice (*Berl. Klin. Wochen.*).

A method for its exhibition suggested by Dr. Potain (*Le Practicien*), appears to answer the purpose. A spoonful of orange juice is poured into a cup, then the oil is added, and finally another spoonful of orange juice. When swallowed, the presence of the oil is completely unrecognizable.

The following elaborate prescription has been suggested. In a tumbler pour six drachms syrup of sarsaparilla, then add ten grains of bicarbonate of soda, and stir. Add then one fluid drachm of a saturated solution of tartaric acid; the reaction will cause a heavy viscid froth. Then pour an ounce of water gently down the side of the glass, so it will reach the bottom with the least disturbance of the other ingredients. Finally the oil is to be added without agitation, and the mixture taken. It is undoubtedly perfectly palatable, but its preparation demands an unreasonable amount of work, and it is not practicable. Another very palatable mixture is open to the same objection:

℞. Ol. ricini........℥i
Ol. anisi
Chloroformi..... aa gtt. x.
Shake and add mucilag. acaciæ ℥ss.
Shake again and add, water...℥ss.

The mixture can then be given. (*Amer. Jour. Pharm.*, Nov. 1875.)

By far the simplest and most eligible palatable prescription containing castor oil is that made with the addition of glycerine, with or without cinnamon.

A very nauseating and unpalatable medicine is codliver oil. Many attempts have been made to cover its taste. One of the easiest methods for its administration is with the yellow of an egg, a drop or two of an essential oil, and half a glass of sweetened water; or it may be given with glycerine and whisky, or glycerine and compound spirits of lavender. The oil may be much modified, and, to some tastes, improved, by the addition of ten drops of the tincture of eucalyptus globulus to the ounce.

The following method for making a palatable preparation is worthy of consideration and investigation; I have not tried it, but the theory appears plausible:

Take of codliver oil...1,000 parts
Coffee.......... 50 "
Animal charcoal 25 "

Place in a well closed flask, and digest on a water bath for one hour. Set aside for three days, occasionally shaking; then filter. The oil is then said to have an agreeable coffee flavor, and a pleasant odor. (*New Remedies*, 1876, 30.)

The medicines I have mentioned are those ordinarily most difficult to administer. I have spoken of them as we have them, without attempting any other improvement than can be made by the addition of various substances. But in most instances our medicines may be made still more agreeable by concentration, and by the use of the active principle, as the alkaloids of drugs.

And in some diseases, too, it will be found that medicine may be made not only less discomforting to the patient, but of greater benefit, by giving it in smaller doses than are now common, though more frequently repeated.

I trust that at some future time I will have an opportunity of speaking on these points, as an interesting feature of this subject.

Society Reports.

ACADEMY OF MEDICINE.

Meeting of April 21, 1884.

W. H. WENNING, M.D., *Pres't in the Chair.* G. A. FACKLER, M.D., *Secretary.*

Remarks on Traumatic Cephalhæmatoma.

DR. P. S. CONNER reported a case on the above subject.

DISCUSSION.

DR. YOUNG stated that he had met, at the Cincinnati Hospital, a case similar in character to Dr. Conner's. A negro child presented itself with a swelling on the side of the head. No difficulty was experienced in making a diagnosis of hydrocephalus. An exact history could not be obtained, except that the child had fallen and immediately after the fall the tumor had made its appearance. The fontanelle was open and by manipulating the tumor pulsation could be detected. Mind was not affected. The child spoke slowly with an old fashioned intelligence and is improving mentally. The case was left alone and the swelling is gradually subsiding. A hard ridge can be felt around a depressed portion of the skull. At the centre of the mass the skin is thin and adherent and near the centre are situated several projections and lumps. Fontanelles are now closed. Pressure upon the tumor does not affect the brain.

DR. CONNER said that in his case, the boy, at the time of the accident, was not unconscious. The only symptoms at any time were restlessness and sleeplessness. He was very fretful and peevish and these mental characteristics will probably remain. The pulse was irritable, varying from 100 to 120.

DR. RANSOHOFF remarked that he had never seen a case of this character. But he had met with analogous cases. He had reported some time since a case which he had attended with Dr. E. G. Zinke. While driving along the street he saw a young woman fall from the second floor of a building, striking upon the head. The speaker examined the woman thoroughly. She was pulseless for fully five minutes and immediately an effusion into the upper and lower eyelids and bulbar conjunctiva was noticed. Head and ears were examined closely, yet no bruise or discharge was manifest. The patient never regained consciousness. Fracture of the base of the skull was diagnosed.

DR. ZENNER said that it was not probable that the collection of fluid, which had taken place in so short a time between injury and examination, could have been cerebro-spinal in character. In cases in which there is effusion of eyes and discharge from the ears, the fluid is from other sources than from the subdural spaces, especially when the accumulation takes place so rapidly. The case occurs either in an hydrocephalic individual, which accounts for the rapid accumulation or an hemorrhage occurs in the beginning in addition to cerebro-spinal effusion. In such a case as the one reported he can scarcely suppose that a ventricle has been opened, for an injury, that would produce such a result must be a severe one and attended by profound cerebral symptoms. The prognosis cannot be pronounced more grave on account of the accumulation of fluid external to the skull and outside of the depression, neither does the escape of the fluid itself add much to the gravity of the prognosis. The speaker would look upon it as a case of hydrocephalus, in which a communication existed between the external and internal parts of the skull.

DR. CONNER said that it was very possible that some hemorrhage had occurred at the time of the injury. When tapped no blood was discovered. As far as the rapidity of accumulation is concerned, twenty-four hours sufficed to refill the swelling from which five ounces had been withdrawn. Even one-half ounce produces a decided swelling. Lucas reports a case in which apparent recovery took place, yet the trouble returned a day and a half later and the patient died of meningitis. Such cases, in which a communication exists as described above, are attended with much greater risks than those in whom such a condition does not exist, especially in younger individuals. Death may in many instances be due to the treatment by exposing the cavity to the air.

Carcinoma of Liver.

DR. CLELELAND presented a specimen of cancerous liver. The patient, from whom it had been taken, was a man, seventy-two years of age at the time of his death. He had been under his observation for a period of two to three years. Speaker had never been able to make a definite diagnosis of any organic lesion. He complained of loss of appetite and his condition was that generally found in gastro-duodenal catarrh. Four months ago, the beginning of his last illness, the patient was again attacked with similar symptoms. No special pain could be elicited about the abdomen. Marked general debility was present, but no discoverable liver enlargement. Speaker was inclined to diagnose it a case of hypochondriasis. The man grew worse; emaciated rapidly; cachexia was well marked; three or four weeks before death a swelling was detected in the gastric region; the tumor felt soft, as if connected with stomach or liver. Patient had never vomited blood, but suffered with obstinate constipation. Upon making the post-mortem, the liver was found in the condition as presented. It is no doubt the soft variety of cancer. It is full of nodules varying in size, some of them breaking down. The diagnosis was surrounded with difficulties. While cancer seemed probable, yet, judging from his own experience, although hematemesis was absent, speaker thought cancer of the stomach more likely. No similar deposits were found in any other organ, not even in the mesenteric glands or stomach. Some broken down deposits were discovered in the lungs which might have been cancerous. The general accompanying conditions of carcinoma of the liver, as peritonitis or hepatitis, or effusion into the abdominal cavity, were wanting in this case. The habits of the patient were good, and there was no history of syphilis or tuberculosis.

Dr. M. Pargamin reports the reduction of a scrotal hernia by fifteen minutes' faradization and manipulation, when three hours of taxis had signally failed. The tumor was faradized in all directions.

The fashionable antiseptic in all the hospitals of this city is the solution of bichloride of mercury, one part to 1,500 or 2,000 of water.—*New York Medical Record.*

Academy of Medicine.—At the next meeting, Monday, May 5th, Dr. W. W. Seely will read a paper on "Ocular Therapeutics."

CINCINNATI MEDICAL SOCIETY.

Meeting of April 22, 1884.

B. STANTON, M.D., *President.* JOHN L. DAVIS, M.D., *Secretary pro tem.*

Palatable Prescriptions.

Dr. John L. Davis read a paper on this subject (see page 550).

DISCUSSION.

Dr. Dun thought, from the fact that so many methods had been given for covering the odor of iodoform, that none was very effective; on the same principle that when many drugs are advocated for the cure of one disease, it usually indicates want of efficiency in all. In his experience the disagreeable character of iodoform can not be obviated.

Dr. Heighway remarked that in his experience—in a great measure in the army—the best way to administer castor oil was in ale or beer; but ale was especially good as a vehicle, half a glass completely hiding the taste of a dose of oil. To most persons the taste of the ale or beer was not objectionable. The speaker also remarked that in his army experience in Mexico by all means the best salt of quinia was found to be the valerianate. In his cases it far excelled the sulphate, tannate, acetate, and other salts; it effected cures where the others failed, and was not attended by the disagreeable physiological symptoms, such as fulness of the head, giddiness, tinnitus aurium, etc. In one instance 160 grains of the valerianate of quinia had been given in the course of about a day without any disagreeable results, though causing the patient's cure.

Dr. Dun believed that the taste of the quinia was essential to its effects. At least this was a very prevalent impression in some neighborhoods, particularly in such as demanded it for malarial difficulties.

Dr. Stanton administers quinine dry upon the tongue in powder form, followed by water. He believes this to be the most eligible method. The plan of combining it with tannin was objectionable, from the formation of tannate of quinia, which is more insoluble than the sulphate.

Dr. Carson said he was in the habit of giving iodide of potassium in a saturated solution, about ten drops containing eight grains, and following with water. He asked what was an agreeable and effective laxative for young children and infants?

Dr. Taylor remarked that he usually preferred "gray powder."

Dr. Davis said that this was good and agreeable, or calomel, with sugar of milk, could be used, and in some conditions castor oil, with glycerine. As to giving quinine with tannin, the Doctor said this was very objectionable, as the resulting tannate of quinia is less soluble, less active, and slower in its effects than the ordinary sulphate, and must be given in larger doses, and its action is less certain.

Dr. Taylor observed that many sugar-coated pills are so insoluble as to pass through the bowels intact. A recent case of his illustrated this. Several of the members of the Society related similar experiences.

Dr. Stanton, in illustration of an early use of potassium, referred to its administration as the hydriodate of potassium, three grains in six ounces of emulsion and this given in twenty-four hours. This was given in two cases of metritis; the patients recovered, and the potassium salt had no injurious effect on either the mother's milk or on her infant.

REPORT OF CASES.

Dr. Taylor said that, in very close relation to the class of cases under discussion last week, was one now under his care. The patient was a woman, about fifty years of age, whose previous health had been good. When seen first, the symptoms indicated not much more than constipation. On Wednesday she was taken sick with pain in the abdomen, which gradually became more severe; she had some fever; a rapid pulse, and there was obstinate constipation, but only occasional vomiting. For the pain the woman had taken a little opium. She was prostrated, and very weak. Temperature had been 102½°, and the pulse rate had reached 120. There was marked tympanitis, most obvious in the lower two-thirds of the abdomen; the upper part—that in the region of the transverse colon—was free from tympanites. Upon pressure, tenderness was noted, most marked in the right inferior quandrant. From near the median line at the pubes, extending toward the right, was a decided induration, which was very painful on pressure; it was also dull on percussion. From the indications, the speaker concluded that this was a case of perityphlitis; the patient was already getting opium and having applied hot fomentations; so the Doctor continued this treatment, increasing, however, the opium. This morning, as is learned from the nurse, there has been vomiting but once in the past twenty-four hours; the patient slept. The pulse rate is 90 and temperature 99°; less tympanites, and, as the nurse reports, through the night there was much discharge of flatus from the bowels. There is still great prostration, and pain on pressure. To-day it looks as if recovery were assured; but still the case bears a strong resemblance to those dangerous cases spoken of last week, characterized by abdominal tenderness, etc. In this case, the Doctor presumes, an accumulation of feces would be looked upon as a predisposing cause.

Very many years ago, when Pathologist of the Cincinnati Hospital, the speaker had made a post-mortem examination bearing on this point. A boy, æt. sixteen, had died with what was called peritonitis, and, in fact, he had all the symptoms of this disease. The autopsy revealed extensive peritonitis, especially marked, however, in the right iliac region; and the cause was found in the appendix vermiformis, caused by the lodgement there of a date seed. (It was recollected that the night before his fatal illness the boy, with his brothers and sisters, had eaten some dates.)

At another time, while Pathologist at the same institution, the speaker had made an examination of a patient who had been attended by Dr. M. B. Wright. The woman, for three months, had been sick with an obscure pelvic disease; she finally became completely exhausted and died. The post-mortem examination revealed a very large amount of pus beneath the peritoneal fascia and within the pelvis, diffusing itself through the soft tissues and undermining the pelvic lining, and anteriorly the pus tended toward pointing near the meatus urinarius. The exciting cause was found to be a pin sticking through the appendix vermiformis. The pin had been swallowed, and lodged at this point; the woman had been a dressmaker or milliner, and probably was in the habit of putting pins in her mouth.

Dr. Carson related an instance in some respects similar. A man who was in the habit of occasionally drinking excessively, got on a spree, and soon after complained of an indefinite pain in the region of the liver, for which he was attended by a physician. From this trouble he recovered, apparently completely, although at the time it was a question whether he did not have a hepatic abscess. A short time after he was affected with pain in the right lumbar region, and this became more severe, and tenderness marked; and there was every indication of an abscess in that place. But the aggravating features disappeared from the lumbar region, and afterward appeared anteriorly in the abdomen. Here the pain and tenderness became gradually more marked, and finally an abscess formed, and, upon its breaking, several bones of pigs' feet were discharged. It was found that the man, several months before, when on a spree, had eaten the pigs' feet, bones and all.

Dr. Taylor remarked that he is now treating a patient that is very annoying and perplexing from the indefinite diagnosis possible. The patient is a woman, unmarried, whom he had treated seven or eight years ago for syphilis, chiefly represented by nodules, pain, and an enlargement at a point on a rib of the right side. She recovered, as far as such patients do, and for four or five years had received no treatment, except occasional medication of herself with the iodide of potassium, as she thought she might need it. About six months ago, in a friendly scuffle with another young woman, she was seized by the throat, and soon after began to cough violently and uncontrollably and expectorated blood. Ever since she has suffered with a difficulty of breathing resembling asthma. The scuffle, from which the trouble resulted, was playful and friendly, and not violent. For a month or more her breathing has constantly been so loud and wheezing as to be readily heard in any part of her moderate-sized room. At times she will cough violently; the sputum is rather tough and nummular, though not much in amount. Her breathing has been so difficult as to prevent her from lying down, and for three or four days and nights she has had to maintain the erect position.

Three or four months ago she began to have pain behind the lower part of the sternum and tenderness was marked here upon pressure. This increased to such a degree that she could not bear the touch of a finger. There is no stomach indications pointing to carcinoma or other growths in that organ, There are no indications of aneurism or tremor or formation of any kind which could press on the nerves and thus affect respiration. Nothing is revealed by auscultation of the chest, though she has been carefully and repeatedly examined by different physicians. The woman has become extremely emaciated and takes but little food. She has been given every medicine it is possible to suggest for syphilis and asthma without the slightest benefit. Two days ago the woman for the first time and unaccountably was able to lie down. Last night she had a copious discharge of pus from the mouth, and now feels materially better. Her breathing was easier and she appears better, though her chances are very poor.

Dr. Dun related a case in his experience much like this. While an interne at the Cincinnati Hospital, as Dr. Mackenzie's assistant, a woman was brought in suffering with severe dyspnœa and pain in the side and running down the arm. She was seized occasionally with violent paroxysms of dyspnœa, which were relieved by the nitrite of amyl. A careful examination of the chest revealed nothing except the doctor thought an aneurism, though this diagnosis was chiefly based on the pain down the side and arm. Other physicians discovered nothing abnormal in the chest, though a variety of vague possibilities was suggested. The woman died in a violent spasm, and the post-mortem revealed an aneurism about the size of a walnut in the arch of the aorta, pressing on the recurrent laryngeal nerve. Aside from this nothing unusual was discovered, except a slight bronchial dilatation. The examination failed to clearly indicate the cause of death. It is possible an aneurism or growth of some form pressing on the nerves of repiration may be the cause of the symptoms in Dr. Taylor's patient.

A newspaper reports a lecturer on "First Aid to the Injured," as saying that "bleeding from the nose is neither Artillery nor Venus, it is Caterpillary."

Even delirium tremens is now traced to a micrococcus: "the worm of the still."

At the next meeting of the Cincinnati Medical Society, Tuesday, May 6th, Dr. John L. Davis will read a paper on "Small Doses Frequently Repeated."

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Cincinnati, May 3, 1884.

Translations.

GENERAL INUNCTIONS IN THE FEBRILE DISEASES OF CHILDREN.—Fourcault having shown that the application of an impermeable varnish to the skin of an animal produced a lowering of the temperature, several physicians have endeavored to take advantage of this fact in inflammatory diseases. They have used grease, collodion, and solutions of gutta percha. Schlemann and several other Germans seemed to think that the fever was moderated by this practice. Senator, however, was the first to make accurate observations with the aid of the thermometer. He found that the application of grease or varnish to a healthy person produced only an insignificant fall of temperature, and that when used with a fever patient, the effect, although more marked, was still very limited.

Dr. Colvat, a physician in the Lyons Hospital, has made some experiments in this line, in different acute affections in children. The agents he used were lard, cerate, and vaseline. In every case he obtained a lowering of the general temperature of the body. The thermometer placed in the rectum often showed a diminution of 0.5° C. (0.9° F.), occasionally 1° C. (1.8° F.) and rarely 2° C. (3.6° F.). The maximum of reduction was obtained about one hour after the inunction, and in from two and a half to three hours the temperature had returned to its original height, at which time a second friction produced similar results. The patients upon whom Dr. Colvat made his experiments were children between one and two years of age. He had occasion, however, to use the same method upon two younger children, one thirteen days old and the other three months old, and in these cases the effects were very marked, the reduction reaching 1.5° C. to 2° C. (2.7° to 3.6° F.)

These inunctions are perfectly harmless, as has been abundantly proven by Schlemann, who has used them four weeks at a time in scarlatina.—*Lyon Médicale.* W.S.C.

EARLY CHOREA.—At a recent meeting of the Société de Médicine Pratique of Paris, M. Rey reported a very interesting case of chorea occurring in a newly-born child. The child, a girl, was born on the 24th of last September, and was taken with convulsive movements the next day, but it was not until the second day that the physician was called. The mother was a primipara of slightly nervous temperament, stated that she always enjoyed good health. Her pregnancy had taken a normal course and her delivery had terminated naturally, but the labor was somewhat prolonged, and the child was born asphyxiated but was soon restored by rubbing it with brandy. The examination of the child itself revealed the infant normal as to its bodily conformation but presenting certain convulsive movements which manifested themselves in the upper extremities, the face and the neck. There were movements of flexion and extension in the muscles of the upper extremities, and clonic spasms of the facial muscles. The eyes alternately opened and closed, and when put to the breast the child refused the nipple.

On the following day the symptoms had somewhat abated, but could be readily provoked by handling the child. These convulsions continued for a number of days, finally yielding to the treatment employed. The rarity of chorea among newly born children gives value to this case. During thirty years practice at the hospital "Enfants Assistés," Baron never met a single case among newly-born children. Out of 1697 cases which came under West's observation, only 67 were below the age of four years. With the exception of the present case there is but one other on record in a child so young, and that is the patient of Michaud, in which the disease made its appearance at the moment of birth. Constant saw a case at four months of age; and Bourdon and Bouchert together saw a case in a child five months old. It would be interesting to trace the subsequent history of M. Rey's case. W.S.C.

WASHING OUT THE STOMACH IN INFANTS. In a late number of the *Journal de Médicine et de Chirurgie* we find reported some remarks by M. Jules Simon on this subject. M. Simon exhibited an instrument used at a crèche in Prague for washing out the stomachs of nurslings, in certain conditions. The instrument is the same as that of M. Debove.

M. Moncorvo, of Rio, who was probably the first to use this method of treatment in infants, uses it especially in cases of dilatation of the stomach, a condition of affairs which he considers rather frequent. He thinks that the dyspepsia of infants is frequently due to this cause. In these cases digestion is still incomplete several hours after nursing, but the child, driven by thirst, takes more milk and the stomach is consequently distended with a large quantity of fluid. Washing out the stomach by means of the tube appears to remedy this vicious state of affairs, which disturbs so profoundly the functions of the digestive tract. This procedure, it is understood, should be used only in grave cases, which have resisted all other modes of treatment. It is especially in crèches and foundling asylums, where children are troubled with an advanced stage of this trouble, that this remedy finds its proper employment. W.S.C.

ON THE PRODUCTION OF SWEAT IN MANY DISEASES, AND ON THE EFFECT OF PILOCARPINE. By DR. H. DERENZI, in *Giornale Internazionale delle Scienze Mediche Napoli*.

After the exposition of many cases of different diseases, where pilocarpine was employed, the author concludes:

After a subcutaneous injection containing 1 centigram (one-fifth of grain) of pilocarpine, the perspiration appears some five or ten minutes after, on some part of the cutaneous surface, with preference to the face and the breast. After 30 to 35 minutes, the sweat appears on the whole body.

When a paralysis of the motor nerves exists in any place, as in the face or the limbs, the sweat does not appear at all, or comes scanty and late on the corresponding paralyzed portions. In a case of paralysis of the radialis of the right side, the perspiration appeared very late on the palmar region of the right forearm, and was entirely missing on the dorsal region of the forearm and of the hand, In a paralysis of the facialis of the left side, no perspiration appeared on the same side. In cases of paralysis from disease of the nervous centres, spine and brain, the absence or the scarcity of perspiration on the paralyzed parts is remarkable.

In three cases of octaxia, two idiopathic and one symptomatic, the perspiration appeared very late and very scarce, being absent entirely on the limbs more affected by the disorder of motion.

In diabetes by the dryness of the skin, the perspiration was very scarce, and was missing entirely on the lower limbs, especially in the feet.

In a case of prosopalgia the sweat did not appear at all on the face. This shows that the secretion of the sweat is independent of the condition of the cutaneous blood vessels. After the injection of the pilocarpine, in spite of a strong vascular dilatation and redness of the face, not any sign of perspiration was perceptible.

On the contrary of the preceding observations, where the secretion of the sweat was diminished, in two cases of pleuritis unilateralis the perspiration was much more abundant on the affected side.

As an explanation of the above mentioned phenomena, the author refers to the alterations of the motor cerebral nerves, and of the spinal peripheric ramifications, either in the form of paralysis or in the form of ataxia, causing the diminution of the perspiration. The neuralgic process of the trigeminus, stops the secretion on the face.

On the contrary, an irritative process in the nerves, as that produced by a pleuritis on the intercostal nerves increases the secretion of the perspiration. Therefore there is no doubt that the secretion of the sweat is under the control of the nervous system. This assertion, known since the most ancient times, was confirmed by the experiences of Goltz, Kendal, Luchsinger, Ostroumow, Gruitzner. From these observations he concludes that the perspiration is independent from the condition of dilatation, or of constriction of the blood vessels, but being under the influence of the nervous system, is rather produced by fibres acting on the segregating cells.

The principal centre, and the original point of these sudoriferous fibres is in the cord; but many sudoriferous fibres have also their origin in the brain, as is demonstrated from the hyperhidrosis which appears in man and in many animals from the influence of the mind, and from the fact of the altered secretion in consequence of diseases of the brain.

The sudoriferous fibres are connected with the motor fibres, as we find the most accentuated alteration by the loss of the motor excitability of the peripheric nerves, or of the motor centres. A lesion of the sensitive nerves can also produce anidrosis, as in neuralgia of the trigeminus, which shows that also in this nerve sudoriferous fibres exist. Adamkiewich tried to demonstrate that in man the facialis forms the principal nerve of the perspiration, but Luchsinger rightly suggested the difficulty of limiting the excitement in some fibres only. In consequence his observations are not a proof. Better than the experiments, the morbous cases can show the truth, sometimes the trigeminus and sometimes the facialis being affected.

The author concludes that from the observation results the facialis is well supplied with sudoriferous fibres, but a great part of them exist also in the trigeminus.

The modifications of the pulse consequent on the administration of pilocarpine, followed in from five to fifty minutes. The result was that the ascendent sphigmographic curve increases after five minutes, reaches the highest point after fifteen to twenty minutes; afterward rapidly decreases, and after forty minutes returns to the same degree as it was before the injection.

During the action of the pilocarpine, which is most intense after fifteen minutes, the disappearance of the elastic elevation of the curve is remarked so also as an accentuated elevation, with secondary and dicrotic character. If the secondary elevation was not present in the pulse that appears during the action of pilocarpine. The apex of the curve is not so high under the influence of the pilocarpine; many times the curve is like an arch.

After forty minutes the action of the pilocarpine on the pulse disappears, and a diminished elevation of the ascendant line is observed. In the same time the elastic elevations are more apparent, and the secondary entirely disappear. During the action of the pilocarpine the pulsations increase in number.

For some time the author used jaborandi to increase the strength of the heart in heart-diseases. Jaborandi was very useful for œdema of the lungs, which is very frequent in these diseases. Now the constant elevation or the ascendant sphygmographic curve shows that pilocarpine—active principle of jaborandi—strengthens the cardiac systole. To this exciting action the efficacy of jaborandi is due in severe heart diseases. A.R.

ANALYSES OF BEEF PEPTONOIDS.—Report on *Beef Peptonoids* by Prof. Attfield, F.R.S , F.I.C., etc., author of "A Manual on Chemistry. General, Medical and Pharmaceutical."

The chemical examination to which I have sumitted your Beef Peptonoids yields the following results in 100 parts:

Albuminoids (containing nitrogen 10.94) .	69.25
Fat, ...	10.71
Sugar including a trace of starch, . . .	9.50
Phosphates, equal to bone phosphate . .	3.01
Other mineral substances, ...	2.61
Moisture, ...	4.92
	100.00

The manufacturers of "Beef Peptonoids" state that this food is composed of dry lean of beef, one-third ; the solids of milk, minus most of the fat, one-third ; the gluten of wheat. one-third; the beef being partially digested or "peptonized." My analysis fully supports this statement ; for I find present between 69 and 70 per cent. of albuminoids, that is flesh-forming material (nitrogen 10.94) ; more than 20 per cent. of warmth-producing substance nearly half of which is milk sugar, and rather more than half fat ; 3 per cent. of bone-forming phosphates ; about 2 per cent. of other normal mineral matter, and about 5 per cent. of moisture. A sample of the constituent gluten submitted to me was practically pure, containing a mere trace of starch. Rather more than one-fourth of the albuminoids, probably the "peptonized" portion, was soluble ; while practically the whole of the "Beef Peptonoids" was readily soluble in peptonizing fluids. showing that it is easily and wholly digested when taken into the stomach. The flavor and odor of the preparation are excellent ; its thorough state of dryness fits it for keeping any length of time in any climate. It is by far the most nutritious and concentrated food I have ever met with Indeed, a palatable and assimilable and in every way acceptable article of food, containing nearly 70 per cent. of truly nutritive nitrogeneous material partially peptonized has never before, to my knowledge, been offered to the medical profession or to the public. JOHN ATTFIELD.

London, November 18, 1883.

DR. L. A. JAMES, of this city, offers his library for sale, at his residence, No. 332 West Seventh street. Continued ill health has obliged his professional retirement.

Selections.

MEDICINE.

Displacement of the Brain.—At the Academie de Médecine, M. Luys made an interesting communication on the displacement of the brain in the different attitudes of the body. According to him, the cerebral mass, which does not completely fill the cranial cavity, follows the position of the head, and in this it is facilitated by the lubricity of the arachnoid membrane. In the horizontal position and upon the back, the brain falls by its weight on the occipital region, leaving an empty space in front; when lying on the face, the empty space is behind; while in the vertical position, the cerebral mass "settles down." These movements are entirely automatic, the brain moving by its own weight; and M. Luys considers that the vertigo so frequently observed in convalescents when they pass suddenly from the horizontal to the upright position is mainly due to this mobility of the brain. Sea-sickness would derive its origin from the same cause; the rapid and successive shocks experienced by the brain from the rolling of the boat produces this special state of nausea, hence the advantage of keeping the horizontal position until the phenomenon were off. The intense pain experienced in meningitis was produced by the inflamed membrane hindering these physiological movements of the brain. Individuals the subjects of cardiac affections or cerebral congestions suffer frequently from vertigo, daze, or even apoplexy, in substituting the vertical for the horizontal position. In fits of coughing, and especially such as are witnessed in whooping-cough, the brain is, so to speak, projected against the cranial vault, producing that special kind of painful phenomena which is often accompanied by serious trouble in children.—*The Medical Press.*

Revival of the Alum Treatment of Whooping-Cough.—Not so very many years ago alum was one of the favorite remedies for the relief of pertussis. But of late it has been almost entirely superseded by other less unpalatable drugs. Now it seems to be again entering upon a time of favor and appreciation. Dr. Warfvinge, of Stockholm, records in *Hygiea* a series of cases of pertussis of varying degrees of severity in which he employed alum with encouraging results. He exhibited the remedy, as a rule, as soon as the characteristic symptoms were declared, and the earlier the treatment was begun the better were the results obtained. In one case of a boy, eight years of age, who had had a cough for three weeks, and who had just begun to whoop, the symptoms disappeared entirely after the use of alum, in a two per cent. solution, for two weeks. In another case of a girl, six years of age, who had from twenty to twenty-five moderately severe attacks in a day, the cough was cured in ten days by the same means. The remedy was given usually in a one or two per cent. solution, in equal parts of water and orange syrup, in the dose of a teaspoonful four times a day. Even in the later stages of the disease, the attacks seemed to be greatly reduced in frequency and severity when alum was exhibited to the exclusion of all other remedies.—*N. Y. Medical Record.*

Splenic Engorgement in Leucocythæmia Treated by Parenchymatous Injections of Fowler's Solution. — In the clinic of Professor Mosler, of Griefswald (*Gazette Médicale de Paris*), a man with an enormously enlarged spleen and leucocythæmia was treated by injections of Fowler's solution (1 ccm.), of which he had ten in eight weeks. Under this treatment the spleen diminished sensibly in volume. A caution if given against using these injections in hæmophiles. It is also recommended that preliminary to the injection the patient should take some remedy capable of inducing contraction of the spleen, and, after the injection, ice should be applied to the spot of puncture for several hours. [Perhaps it would be as well to apply the ice and administer quinine and ergot for a while before resorting to the injection. It seems that they might be just as efficient and less dangerous. Professor Kussmaul lost a case after an injection of sclerotinic acid into the spleen, apparently from penetration of one of the spleen vessels.] —*Méd. Times.*

The Specific Treatment of Diphtheria.—M. Dethil read a paper on this subject at the same meeting of the Academy. According to him, the combustion resulting from a mixture of coal-tar and turpentine, in the proportion of seven ounces of the one to three ounces of the other, renewed every three hours, is a specific remedy of diphtheria. 2. These fumigations dissolve the false membranes. 3. At the *debut* of the disease they arrest its progress. 4. They have also the advantage of protecting those who are about the patient; and by their parascide properties they are excellent in preventing contagion in schools and public establishments.—*The Medical Press.*

Ulceration of Bowel, with Copious Hemorrhage, Cured by Castor Oil.—Dr. Hildyard Rogers reports this case in the *Brit. Med. Jour.*, February 16, 1884: Miss G., aged twenty-eight, was first seen on March 22, 1883. She had been suffering since the beginning of March from diarrhœa, accompained by hemorrhage. Her father, mother, one sister, and one brother, are living and healthy. One brother died, at adult age, of phthisis. She was looking plump and well nourished, and had no pain. The tongue was clean, but red. Nothing abnormal could be made out on abdominal palpation. The heart and lungs were sound. There was no cough. The urine was normal. The rectum was slightly dilated. She had internal piles, which had bled occasionally, but not to any extent. She had always been regular and healthy. She had, since the beginning of March, been passing daily two or three loose motions, containing shreds of mucus and dark clots of blood. Temperature (morning), 101.3° Fahr.; pulse, 120. Between March 22 and May 9, the diarrhœa steadily increased in severity, and the blood changed from dark clots to a bright arterial color. At the latter date, the motions consisted apparently of little else than blood and mucus, and the bowels were acting ten or twelve times in the twenty-four hours. There was at times troublesome vomiting, and steady loss of flesh, but never during the course of the illness any pain, other than that arising from bed-sores and from the patients's general weakness. The most careful examination, as well as the character of the motions, showed that the blood did not come from the internal piles, or from the lower part of the bowel. The temperature ran an irregular zigzag course, rising at times as high as 103.4° Fahr. The pulse seldom varied, and was nearly always soft, compressible, 120 to the minute. There was never any tympanitis.

During this period (seven weeks prior to May 9) she was seen in consultation with Dr. Ogle, Dr. Bird, and the later Dr. Hilton Fagge, all of whom concurred in the diagnosis. Opium, belladonna, bismuth, cerium, logwood, nitrate of silver, etc., were found utterly useless. Suppositories and injections of various kinds were tried without avail. By May 9, she was reduced to a very emaciated condition, and was too weak to turn in bed. Food was taken with great difficently owing to the constant vomiting, and the patient's condition appeared almost hopeless. On May 9, she was seen by Dr. Gibson, of Newcastle, at whose suggestion drachm doses of castor oil each day were tried. Within twenty-hours after taking the first dose, she passed a fæculent motion. The castor oil was repeated eight times up to May 20, and after this only occasionally. The temperature fell in forty-eight hours from 103° Fahr. to 99° Fahr., and never rose again above 100° Fahr. The diarrhœa rapidly abated, the stools becoming fæculent and healthy. No blood was passed after May 18. The patient rapidly regained flesh and strength, and, although bearing traces of the severe illness and physiological starvation which she had undergone, was able to go to the sea-side in July. In September, a slight relapse took place, but was easily cured by the same treatment; since that time, the patient has remained in good health.

Sublimate Solutions in Diphtheria. Dr. Rudolph Caeestatt, of Uruguay, writes to the *Münchener Intellig. Blatt*, March, 1884, in favor of the treatment of diphtheria by local applications of solution of perchloride of mercury, 1 in 10,000, about gram to the pint. The plan he follows is to sprinkle the floor of the patient's room five or six times a day with a 2½ per cent. solution of carbolic acid, and paint the part affected every hour with the sublimate solution, using a fresh brush or feather each time. For the purpose of quieting the patient after such frequent disturbances, he gives chloral in larger or smaller doses. He has had no fatal cases since adopting this plan of treatment.—*Med. Press.*

Glycerine Applications for the Skin.—M. Vigier recommends four or five parts of corrosive sublimate dissolved in 100 parts of glycerine, in place of mercurial ointment for parasites of the skin. It has been known for a long time that glycerine is not absorbed by the skin, and that also it prevents the absorption of medicines, and to a great extent that of corrosive sublimate.—*Brit. Med. Jour.*

SURGERY.

Rupture of the Urinary Bladder.—Dr. B. Beck, General and Corpsarzt of the Fourteenth Armée Corps of the German army, has observed twenty-five cases of traumatic rupture of the bladder, and in the *Deutsche Zeit. f. Chirurgie*, xix, 4, 5, he reports two cases at length, and adds the following conclusions:

1. That simple rupture of the bladder may be caused by direct or indirect violence—falls on the feet or the lower end of the trunk—and that the momentary position and attitude of the body contributes in determining the situation, form, and extent of such rupture. The bladder will always give way at its weakest part, the anterior or posterior wall, the point being determined by the direction in which the contents of the bladder are pressed by the outside force.

2. The only characteristic symptoms are those furnished by the wounded bladder itself, and these are: violent, frequently-returning attempts to urinate; inability to pass water spontaneously; flow of a small quantity of bloody urine on passing the catheter; strong contraction of the bladder, whereby its capacity is diminished; free movability of the catheter, after which the small emptied space speedily fills up with some urine, which sets up renewed straining. If bloody urine escapes, the diagnosis may be made of extra-peritoneal rupture, as it is only rupture of the anterior wall in the vicinity of blood-vessels that give rise to hemorrhages. Œdema of the external genitals, caused by disturbances of circulation, supports the diagnosis of extra-peritoneal rupture.

3. The fatal termination in cases of simple rupture of the bladder is not a consequence of peritonitis, but of intoxication by resorption of decomposed urine.

4. Internal medicines are insufficient. The first requirement is the introduction of a permanent catheter under strict antiseptic precautions.

As the urine that is poured out into the abdominal cavity is the greatest source of danger to the organism, the treatment in intra-peritoneal rupture should not be expectant. At the onset, or increase of local symptoms, if the general condition be gravely affected—and this will be seen in the course of a few hours—the following is the only mode of procedure calculated to save life: Laparotomy, removal of the urine poured out into the abdominal cavity, thorough disinfection, and, finally, closure of the bladder wound by suture. In extra-peritoneal rupture, when the urine has permeated the extra-peritoneal connective tissue, an expectant plan of treatment is allowable so long as changes at the center of infiltration do not point to the necessity for surgical interference. The main point in the treatment is the employment of a retaining catheter, with occasional cautious washing out of the bladder with some antiseptic fluid, in order that no fluids capable of becoming disorganized may be allowed to remain, to the jeopardy of the patient.—*Medical Press.*

Amputation of the Uterus by the Elastic Ligature for Chronic Inversion. — Prof. A Mazzuchelli, of Pavia, in *Annali Univ. di Med. e Chirurg*, reports the case of a woman æt. 35, who had inversion of the uterus dating from her seventh labor. After several ineffectual attempts to restore the organ to its proper position, Mazzuchelli determined to remove it by means of the elastic ligature. The uterus was drawn down, and the ligature thrown around it by means of the Desault polypus serre-nœud, and was then replaced in the vagina. Thirty hours afterward the organ came away. Antiseptic injections and powders were thrown in, and the patient was soon cured. This is the seventh Italian case, all of which recovered.

The statistics collected by Denucé show that of thirteen cases in which the elastic ligature was used, only one died, while the lowest mortality from any other operation for inversion is from the progressive ligature, 15·87 per cent., and from this to 33·33 per cent. in other operations.—*Medical News.*

An Aseptic Suture Material.—Dr. Partsch, first assistant in the Royal Surgical Klinik, Breslau, recommends ordinary sewing or purse silk rendered aseptic by a simple method devised by himself. The silk is soaked for forty-eight hours in a solution of iodoform in ether (ten per cent.), It is then taken out, placed between layers of clean blotting paper and dried. In using any of the silk thus prepared, every care must be taken to prevent any contact of the part remaining unused with blood or secretions, and with this object in view he has the silk wound on a spool enclosed in a case perforated at the side to allow the thread to be passed through. He claims that silk thus prepared is thoroughly aseptic, and that pus will form along the suture tracks.—*Medical Press.*

A CONTRIBUTION TO THE ANATOMY OF THE CENTRE OF SPEECH. — Rüdinger has made a large number of examinations of the third frontal convolutions in the lower and anthropoid apes, in microcephali, deaf-mutes, and in human brains of different races, sexes, and cases of marked individuality; these investigations show that in all probability there is some connection between the lateral half of the frontal brain in the neighborhood of the opercular gyrus (Broca's region) and the ability of speaking, though he admits that a positive proof that the centre of speech lies in the third left frontal gyrus can only be proved be experiment. If, however, this portion of the brain had any function connected with other muscular motion or general sensibility, it should be well developed in apes and microcephali, in whom general muscular power and sensibility are normal. This, however, is not the case. Dr. Fischer finds that in apes and microcephali this convolution is merely rudimentary, and, while it is not rudimentary in deaf-mutes, it is, however, much less developed and complex than in individuals marked by rhetorical power. — *Centrablab. f. d. Med. Wissen.*

PUERPERAL MASTITIS.—In the *Archiv. f. Gyn.*, Band 22, Heft 2, Dr. Otto Küstner discusses the question whether puerperal mastitis can ever arise from the retention of milk within a milk duct. He has observed cases that have made it certain (to himself) that mastitis can be produced in this way. For a long time he held the views promulgated by Bilroth and Winkel, that mastitis is invariably a secondary process, the result of infection; that the source of infection lies in rhagades and excoriations of the nipples; and that the accompanying milk retention is caused by swelling of the glandular tissues, but his observations have now led him to change his opinion. Schroeder considers blocking of the milk ducts and the consequent milk stasis to be the most frequent cause of mastitis. Küstner, on the other hand, believes that the affection only rarely arises in this way. When it does the patient has only suckled her child a short time or not at all, and rhagades have never been present. These cases run a milder course in regard to fever, pain, and redness than those inflammations that arise from infection. The infiltration may be dispersed (by pressure with the elastic bandage); in other cases the redness is circumscribed, and distinct fluctuation indicates incision. No pus, however, escapes, but milk in various stages of condensation. In such a case wide incisions, drainage, and antiseptic washings out are unnecessary. The wound generally heals quickly under a compress, and without the accumulation of fresh secretions.—*Medical Press.*

MISCELLANY.

STATE BOARD OF HEALTH OF LOUISIANA. We are in receipt of the following circular from the State Board of Health of Louisiana:

I have the honor to inform the profession that this Board has been re-organized by the election of several new members, and the selection of Joseph Holt, M.D., to be its President. The Board now consists of Joseph Holt, M.D., J. C. Faget, M.D., L. H. Von Gohren, M.D., L. F. Salomon, M.D., S. R. Olliphant, M.D., Charles E. Kells, D. D. S., Walker M. Smallwood, Esq., Joseph A. Shakespeare, Esq., and F. Formento, M.D., (resigned).

The following resolutions, unanimously adopted at the first meeting of the new Board, April 12th, 1884, are commended to your consideration as expressing the policy of the new Board, and the plans it will pursue in endeavoring to prevent the introduction of contagious or infectious diseases into this port:

Fully recognizing the wisdom of the quarantine laws of this State, the necessity of their rigid enforcement, and the great importance of securing for this Board the confidence of the people throughout the Valley of the Mississippi.

Resolved, That it is the fixed and irrevocable purpose of this Board to apply quarantine restrictions against all ports where con-

contagious or infectious diseases exits to the limit of the law, and, if necessary, it will advise the total suspension of all communications with such ports while so infected.

Resolved, That while we are guarding with sleepless vigilance the outlets of the Mississippi River, we are not unmindful of the dangers that threaten us from the rear. In more than one instance yellow fever has been introduced into this city and State through the States of Texas and Mississippi. All things considered, the least protected sections are the long lines of sea-coast westward in Texas, and eastward in the States of Mississippi, Alabama and Florida. The approaches from without to this State are through Lake Borgne, the Mississippi River and Berwick's Bay: these we will guard with sleepless vigilance, and while we are doing that we call upon the authorities of the States of Texas, Mississippi, Alabama and Florida to exercise a like effective control over the seacoast in those States.

Resolved, That while this Board will maintain its just prerogatives as a department of the State Government, it invokes the co-operation and confidence of any and all organizations at home and abroad by laboring to promote or protect the public health.

Resolved, That recognizing the great importance securing the co-operation of the Boards of Health of other States, and of other health associations wherever situated, and of establishing a condition of absolute confidence, it is hereby made the duty of the President and other officers of this Board to extend to Boards of Health of other States, and other health associations, unrestricted access to the records and health reports of this Board, as well at the several quarantine stations as at the central office of this Board in New Orleans; and it is hereby further made the duty of the President of this Board to make public from day to day, as may be necessary, the condition of the public health, and he is hereby specially required, in the event that yellow fever should be introduced into this city or State, to communicate such fact without delay to the Exchanges and commercial bodies in New Orleans, and to the Boards of Health of other cities and States.

Resolved, That the co-operation of the several Exchanges and commercial bodies of this city is earnestly solicited in the sanitary work of this Board, and in the proper, intelligent and effective application of the sanitary and quarantine laws of this State.

Resolved, That while tendering to other boards and health associations generally, at home and abroad, the courtesies and confidence of this State Board of Health, we solicit the like consideration of the boards of health and health associations of other States, to the end that confidence may not only be reciprocal, but established on a firm and and enduring basis.

Resolved That having thus declared our purposes and the policy of this Board, it is expected that no credence will be given, at home or abroad, to any reports respecting the state of the public health in this city or State, that are not sanctioned or verified by the action of this Board, or of its duly appointed officers.

By Order of the Board.

S. S. Herrick, M.D., *Secretary*.

Extramural Teaching in Edinburgh.—In Edinburgh there is a large number of teachers, outnumbering even the professors, there being as many as two or three teachers of one subject, as midwifery, chemistry or medicine, each lecturing independently of the others, and in different rooms. These extramural lecturers or teachers set up for the most part under the auspices of the Royal College of Surgeons, or the "School of Medicine" in Edinburgh, They may lecture without attendance on their lectures by a student being held as equivalent to attendance on the same class or subject intramurally, or within the university. But it is almost the universal custom for each teacher to previously obtain the recognition of his status by the university, so that attendance on his lectures may count for the degree as equivalent to attendance on the same class within the university.

These lecturers, for the most part, give courses quite similar in character to those within the university, and, therefore, lecture, if one may so say, in opposition to the professors, and should a particular professor chance to be unpopular, or a bad teacher, the extramural lecturer or lecturers may have a large class.

The fees charged by the extramural teachers are commonly one guinea less than the university fees (say £3 3s instead of £4 4s.), but if it is desired by the student that his attendance on the extramural class should count for the university degree, then he must pay to the extramural lecturer the same fee as he would have paid to the university professor, and the fact of his having paid the larger fee must be noted on his card or certificate of attendance before it can be accepted by the university authorities. The Colleges of Physicians and Surgeons of Edinburgh grant licenses to practice, and it is largely in preparation for these that students attend the extramural lectures, and in such a case there is no restriction as to fee. Nor is there any restriction in the case of a university student if he has taken out the same class in the university, and has paid the usual fee, or taken out the class at any other university.

Each extramural lecturer pays for his own rooms, provides his own apparatus, and holds all the fees he gets from his class. He is practically responsible to no one, but the university can always withdraw recognition of his lectures if they see a fit reason. When they grant recognition all they require is that the person has some status or standing in the subject on which he proposes to lecture, but recognition is often granted to comparatively young and inexperienced men; so much the worse for them if they are incompetent. A student for an university degree can only take out four such extramural courses, all the others he must take out in the university. This limits the effect of the opposition.

Besides these lecturers on the same subjects as the university professors, there are a few others, who give courses on subjects not specially taught within the university, and not compulsory for the degree, as a course on diseases of the ear, eye, etc. Recently, however, a university lecturer on diseases of the eye has been appointed, as also one on insanity. These are the only two lecturers not professors holding their appointments directly from the university. In no case is the number attending the class limited. There are no small cliniques. Each of the clinical professors at the infirmary has a following of from twenty up to even eighty and one hundred. Men are drilled in the elements of practical diagnosis in groups of ten or twenty by the clinical tutor acting as assistant to the clinical professors.

The extramural teacher can lecture *when* and where he pleases, but he usually finds it most convenient and profitable to lecture at the same hour as the professor of the same subject.

This system of extramural teachers is of great antiquity in Edinburg, and has been found to supply a healthy stimulus to the university professors, many of whom come from the ranks of the extramural lecturers, especially in the practical subjects of medicine, surgery and midwifery. A majority of the present professors were extramural lecturers before being appointed professors. The professor has always the advantages of endowment, better equipped and more commodious laboratories, and the chance of examining the student for his degree, which last induces men to stick to the university teachers.

In Glasgow a similar system has only recently been established, and there is now a very large number of extramural teachers there.

In Aberdeen the system or practice does not exist, and university professors are unopposed.—*Boston Med. and Surg. Journal.*

AN EXTRAORDINARY OCCURRENCE. — About four weeks ago an old woman died rather suddenly at Tigharry, in North Uist. Several days after the woman was buried, it was considered necessary by the Procurator Fiscal to order a post mortem examination to be made. While attempting to open the lid, however, the coffin burst with a loud noise, one of the boards striking Police Inspector Mackenzie and knocking him down. Dr. McDonald, medical officer in attendance, fainted and remained in an unconscious condition for some time, and such was the effect of the shock upon his system, that, although able to carry out the examination later on, he died last week. The doctor was about thirty years of age. Dr. Black, who was also present, is lying seriously ill.—*Brit. Med. Jour.*

DEATH CAUSED BY THE APPLICATION OF SOFT SOAP.—Dr. Sprengler reports (*Aerztl. Intell. Blätter*, No. 28; abstract in *Monats. für Prakt. Derm.*, No. 10), a case in which soft soap—now much used, and with excellent results, as an application in various skin-diseases and in glandular tumors—caused the death of a patient. The case referred to was one of scabies. The patient was rubbed with the soap, and a general acute dermatitis followed, which ended fatally.—*London Med. Record.*

ORANGE JUDD.—Editor of the *American Agriculturist* for some thirty years, but unconnected with its business management for a year or two past, has lately retired from its editorial department and located in the West. He desires to gather a complete "*Postal-Card Album*" of his old Readers and Friends, and requests them all to send him now a Postal giving their present location and address, naming also, when convenient, the years in which they were his subscribers. Mr. JUDD's address is Chicago, Illinois.

HEREDITY IN NERVOUS DISEASES.—Dr. Möbius, of Leipzig, has investigated the genealogies of five families through several generations, in order to obtain some information with regard to the mode of heredity in nervous diseases (*Deutsche Med. Woch.*). He finds, among other things, that drunkenness exerts a most powerful influence on posterity, and that even the apparently healthy members of a nervous family are not normally vigorous and capable of enjoying life. He is of opinion that no one who has once suffered from a severe form of nervous degeneration ought ever to marry.—*London Med. Record.*

TREATMENT OF CORYZA.—Dr. Gentilhomme has employed atropine as a means of cutting short an ordinary acute coryza, when employed sufficiently early, at the very beginning of the inflammation. He administers it in pills, in a dose of half a milligramme.—*London Med. Record.*

DR. STOQUART, of Brussels, has employed chrysophanic acid internally in sixty-one cases, comprising eczema, psoriasis, lichen, etc., and reports that fifty-six were complete cures.

PROF. S. D. GROSS is seriously ill. The indications are that he will not recover from his present illness.

Bibliography.

HEREDITARY SYPHILIS. (1)

This is a translation of Diday's work, which was first published a quarter of a century ago. The work is a classical one, and for the most part expresses the current view of the subject. The main work is divided into five parts, under the following heads: Etiology, Description, Prognosis, Medico-legal Bearings, and Treatment.

The American editor, in an appendix, considers two points. First, "the question of the viability of children born with the taint of hereditary syphilis, the mortality which occurs among them, and the causes which produce death"; second, "the accidents known under the name of syphilis hereditaria farcta."

This book forms the October number of Wood's Library of Standard Medical Authors, and is a valuable work.

THE PHYSIOLOGICAL FACTOR IN DIAGNOSIS. (2)

This work is written in the author's usual fascinating style, and is interesting from beginning to end. However, that it is by no means so beneficial to the practitioner as it is interesting in style, will, I think, be impresssed upon the mind of the thoughtful reader.

The author rehashes trite facts with great gusto, just as if he were announcing some new discovery. To illustrate, I quote: "How, then, must the young practitioner commence his examination [of a patient]? Some fly at the patient with a stethescope, or call in the aid of divers instruments of precision. These latter are not to be ignored, certainly; but there is much to be done without resorting to these valuable aids. Instruments of precision come in more fittingly at the close of the examination rather than at the beginning! When the nature and extent of the patient's disease come to be estimated, then they are of priceless value."

Now, barring the bad grammar, that all reads pretty well; but of what good is such talk? How many physicians, young or old, "fly at the patient with the stethoscope" at the commencement of an examination? Then he naively says that these instruments of precision "are not to be ignored," just as if everybody didn't know that. But to impress the idea, he continues: "When the nature and extent of

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1 A Treatise on Syphilis in New-born Children and Infants at the Breast. By P. Diday, ex Surgeon to the Hospital de l'Antiquaille, Lyons. Translated by D. Whitley, M.D. With Notes and Appendix by F. R. Sturgis, M.D., Professor of Venereal and Skin Diseases in the New York Post-graduate Medical School, etc. New York: William Wood & Co. 1883.

2 A work for young practitioners. By J. Milner Fothergill, M.D., etc. New York: Wm. Wood & Co.

the patient's disease come to be estimated, then they are of priceless value." Now, does the author intend to insinuate that the average young practitioner (this work is addressed to young practitioners) hasn't sense enough to know what instruments of precision are used for? He would seem to imply that to get the family history the young practitioner must fly at his patient with a stethoscope, or to get a knowledge of his subjective symptoms he must jump on him with a sphygmograph. Dr. Fothergill must have been very unfortunate in his acquaintance with "young practitioners," for I can not believe that the average British medical advocate is so ignorant, or needs such primitive instruction. At any rate, I do know that the average American first-course student is far in advance of such elementary instruction.

In the preface the author hints that the book is written to prove that something of worth can come "from others than those who are attached to medical schools." I doubt whether the book furnishes the proof. In his concluding remarks he says that "his books have brought him practice." Perhaps this is a more valid reason for this effort.

He says that this is his last book, as "for the future his time must be devoted to the revision and enlargement of already existent works."

I rather think that his last is his worst work, and that it is not at all what I should have expected from the author of "Fothergill's Hand-book of Treatment."

DRUGS AND MEDICINES OF NORTH AMERICA.

This is the title of a new quarterly publication placed on our table by Messrs. J. U. and C. G. Lloyd, of this city.

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HORLICK'S DRY EXTRACT OF MALT—BEST IN USE.

Original Articles.

ATROPINE IN WHOOPING-COUGH.

By Frank Warner, M.D.,
Columbus, O.

There are few diseases that have had so many remedies assigned to them as whooping cough. During every epidemic of the disorder one or more remedies are vaunted as "specific," which live and flourish for a time, but are soon consigned, with the other remedies which have preceded them, to a hopeless oblivion. By a careful analysis of the various reports of cases, we find that those remedies which flourish the longest, and retain the greatest number of advocates, are the medicines termed the "neurotics." And, really, this is what we might expect, if we only stop to consider that the disease in question is essentially a "neurosis;" yet this is about all we can say of its etiology. We know very little of the manner in which it originates, or how it is propagated; and we are still more ignorant of the causes of its erratic career.

Excluding scarlatina, it is one of the most uncertain diseases in its career of all the infectious maladies. Commencing mildly, it may terminate fatally; or, beginning severely, it may soon merge into a benign type of the disease; and sometimes, when to all appearances, it has quite ended its career, it suddenly reappears, after an interval of several weeks. It is usually ushered in by a severe catarrh, yet the characteristic "whoop" is often the first thing to attract attention. Taking into consideration the various anomalies of the disorder, it is not strange that so many remedies have gained popularity in the treatment of this disease, and many of them, too, gaining the title of "specifics." But no remedy can really be called a specific unless it possess properties which will act certainly and definitely in each case, and so that we can foretell the result in a given case.

It would be claiming too much for atropia to say that it is a "specific" in whooping cough, for it is not; yet it probably advances as nearly to it as any remedy that has ever been used for the disease. Trousseau inaugurated the treatment of whooping cough by this remedy, not using, however, the alkaloid, but belladonna in the form of extract or simply the powdered drug. But atropia is much preferable, for it is of definite strength, tasteless, and the dose can be more easily regulated because of its unvarying strength. One of the best ways of administering the remedy to children is in 1-200 gr. doses, three or four times a day. To test the question of its usefulness, one should note the number of paroxysms in the twenty-four hours, as suggested by Trousseau, or, perhaps what is better, include in your observation only the paroxysms occurring during the waking hours, as one is apt to miss counting one or more of the nervous manifestations occurring during the night. In many cases, after a few days, we find a steady diminution in the number of paroxysms, also a diminution in their duration, as well as an alteration in the character of the "whoop." But if the atropia be now withheld, they again recur with their former frequency and character.

Three or four days have generally elapsed before any diminution can be noticed either in the character or number of "whoops," and all cases will not respond with equal facility; indeed, I may say that many will not respond at all to its influence. But still a fair proportion of the cases do better under the use of atropia than by any other mode of treatment. A prominent writer, speaking of this subject, declares whooping cough to be essentially a neurosis, and that "if we are to judge by the sensations described to us by those who are old enough to analyse their feelings, it is the laryngeal branches of the pneumogastric nerve that are primarily affected. The frequency, however, of the paroxysm is no index to its severity, and conversely; nevertheless, the frequency and intensity of the phenomena exhibited may be, and often are, coincident. Is there any explanation to be offered of this? I think so. No one who has had much to do with the ailments of childhood fails to observe what very different effects are produced by apparently the same irritation. In some there are excited convulsive movements, fever, restlessness, &c.; whilst in another, perhaps of the same family, there is scarcely any systemic disturbance produced. This is probably due to inherent susceptibility of some children to sympathetic action and reflex phenomena; and as nervous exaltation, or nerve tension, is far higher in children than in adults, we see, as a rule, greater severity and consequent prostration in some children than in others."

Shroeder von der Kolk thinks the medulla oblongata is the principal center whence the more general reflex movements derive their origin, it having a special capacity for exciting them. Under certain conditions this capacity may become greatly excited. We can easily understand how the peculiar irritation which probably exists at the terminal filaments of the nerves of the larynx and trachea sets up these reflex phenomena so characteristic of the disease, as these never take their origin from the medulla oblongata.

There is no medicine which has so calmative an effect upon the pneumogastric nerve and the medulla oblongata as atropia. It diminishes both irritability and sensibility. It is highly probable that atropine exerts its beneficial influence in whooping-cough by diminishing the capacity of the terminal filaments of the laryngeal nerve to receive impressions, and also by decreasing the capacity of the medulla oblongata to excite reflex action.

Correspondence.

WASHINGTON LETTFR.

Fifth Annual Session of the American Surgical Association.

The fifth annual session of the American Surgical Association, which has just closed, was one of considerable interest, and one that compared very favorably with former sessions. It has been the good fortune of your correspondent to be present at nearly all the meetings of the session just closed, as well as to have attended the meeting at Cincinnati last year, and he can say that the favorable impression he had previously formed has been made only more favorable.

It must necessarily happen — leastwise it always does happen — that in a meeting of a body like this one there is much said and done that would be as well unsaid and undone. This is especially true of an organization no older than the Surgical Association. Yet with a membership limited as it is to one hundred, it has opportunities limited only by the boundaries of science.

But it is neither my province nor my purpose to criticize. I shall return to the meeting.

The sessions continued four days, from April 30th to May 3rd. On Wednesday, the first day, the enthusiasm was so strong that but one session was held, continuing *without lunch*, from eleven A.M. to four in the afternoon.

The first address was the inaugural of the President, E. M. Moore, M. D., of Rochester, N. Y. The address was a historical review of the advancement of surgery from the earliest periods of which we have any records to the present. One striking point was the evidence that the early Egyptians separated the practice of medicine into distinct branches corresponding closely to Medicine and Surgery as understood at the present day. The mummy of an ancient Egyptian physician has recently been discovered in a papyrus of unusually great length, which is said to give an almost complete guide to the practice of medicine in his early time. Dr. Moore further expressed his belief that Hippocrates was in reality only a teacher of the theories and practices of the ages preceding his own. Although the precepts of the Father of Medicine are no longer received as guides, yet he believed that they were well founded and successful in the day for which they were intended. Notwithstanding the fact that many of the surgical procedures of the present day are only modified forms of those then in use, most of those considered of great importance then are now looked upon with discredit.

In alluding to the time of the renaissance; Dr. Moore said that if it had not been for the high tide of culture at the time, we should not have had a Vesalius. Although he gave Vesalius credit for an intellect of unusual brilliancy, he said that without him Eustachius, who was but a few years his junior, would have filled his place. As it was, Eustachius extended his researches beyond the study of the human body, and was the first comparative anatomist. A passing notice was paid to such men as Fabricius, Fallopius and Harvey, as well to the more modern absurdities of Perkins' Tractors, Homeopathy and Eclecticism.

At the present day the great difficulty is too much print, and just now the tendency is to condensation into epitomes, handbooks, etc.

In concluding his address the President referred to the needs and the necessity of an association composed exclusively of surgeons.

During the business meeting which followed the inaugural, the Secretary announced that two of the members, of the

Association, Drs. J. Marion Sims and Willard Parker, of New York, had died. As a result of the objection raised at the last meeting to members of the Association who opposed the National Code, two others had resigned.

The two papers entitled "An Experimental Study of Anæsthetics," by B. A. Watson, M.A., M.D., and "Some of the Dangers and Disadvantages of Anæsthesia," by David W. Cheever, were discussed together. Dr. Watson confined his remarks to studies he had made of the actions of the various anæsthetics separately and combined upon the lower animals. The result showed that while sulphurous ether is slower in its action than chloroform, bromide of ethyl, or the mixtures containing chloroform and ethyl with alcohol, it is many times safer. Dr. Cheever spoke exclusively of the action of ether on the human subject. The dangers he spoke of were stertor, spasm of the muscles of respiration, dyspnœa from the irritation of the fauces produced by the ether, heart disease, exhaustion and apoplexy. The principal disadvantages related to the inconveniences in operating, as the vomiting, the stage of excitement, the delirium and the stupor following its use.

The discussion of the papers was pretty freely participated in, some of the speakers favoring the use of chloroform, but most of them opposing its use, except in the parturient state, and in children.

I must not consume the space allotted to my letter without a notice of the paper of Dr. Samuel D. Gross, on "Wounds of the Intestines." The author was unable to attend the meeting on account of illness, which, by the way, is causing not a little alarm to his friends, and his paper was read by Dr. Richardson. The author wrote first of the scarcity of information to be gained from the text-books regarding this subject. He then referred to observations of his own in seventy experiments upon dogs, and finally spoke of the phenomena occurring in the human body. As prominent symptoms of wound in the intestine he referred to tympanites and hemorrhage from the bowel.

Two leading points, he said must be considered in the treatment, the prevention of fæcal effusion and the development of peritonitis. To prevent the former complication he recommends the free use of sutures, and preferably the interrupted silk thread.

Other interesting papers were read during the first session, to which I can give only a passing notice. Dr. L. McLane Tiffany, of Baltimore, read on the "Ligation of the Common Femoral Artery," in which he considered the relative value of this operation as compared with ligation of the external iliac, and the indications of the one over the other. Dr. P. S. Conner, of Cincinnati, read a paper in which he reported two cases of cephalhydrocele, and reviewed the twelve other cases on record.

Dr. Charles B. Nancrede, of Philadelphia, read a paper on "Surgical Interference in Cerebral Abscess." In it he defended the practice, not only of trephining in cases of brain abscess, but of running an aspirator needle down into the brain substance to find the pus, or even making incisions. He reported a case in which, believing his patient dead, he made a cut into the brain substance, which was followed by a free flow of pus and a revival of the patient. He also pointed out the importance of abnormally low temperature as a sign of cerebral abscess, and said that even when the temperature has been elevated by an inflammation about an injury to the skull, as soon as the brain itself becomes involved, the temperature rapidly becomes subnormal.

On Thursday the Association decided to be more considerate of the body, although none the less so of the mind. Two sessions were held, from eleven to one, and from two to five.

Several papers of interest were read, but I must pass them hastily. The paper of Dr. Samuel W. Gross was read, in his absence, by Dr. Mears. Its title was "Gastrotomy, Œsophagostomy, Internal Œsophagotomy and Gastrostomy in the Treatment of Strictures of the Œsophagus." The paper was very exhaustive and thorough in the discussion of the operations named in its title.

Two papers were devoted to "Rail-road Injuries." Dr. Joseph W. Thompson, of Paducah, Ky., read on the "Surgery of the Hand," especially as applied to railroad injuries, and Dr. James McCann, of Pittsburgh, read on "Clinical Observations on the Treatment of Some Railroad Injuries to the Extremities."

Dr. John H. Brinton, of Philadelphia, read a contribution on "Intra-Uterine Fractures," in which, aside from a general consideration of the etiology, pathology and treatment of the accident, he reported two cases in which he had treated the resulting deformity, and exhibited casts and photographs of the deformities and the results of treatment.

The paper of Dr. N. Senn, of Milwaukee, was very much the same in regard to magnitude as was the paper of the same author last year. It was so long, consisting of more than twenty separate papers on different branches of the subject, that only a very small part of it was read. It was based upon a large number of experiments conducted by the author, and was entitled, "Experimental Researches on Cicatrization in Bloodvessels after Ligature."

Dr. Moses Gunn, of Chicago, read an elaborate production on "The Philosophy of Manipulations in the Reduction of Hip and Shoulder Dislocations," in which he compared the present easy methods of reducing these dislocations with the old, and its numerous machines. He showed the great advantage of a definite purpose in all manipulations.

The other papers read were as fallows:

"Tracheotomy in Croup," by Geo. W. Gay, M.D., of Boston.

"The Multiple Wedge Principle in the Treatment of Organic Strictures of the Urethra," by John S. Coleman, M.D., of Augusta, Ga.

"A Contribution to our Knowledge of Trifacial Neuralgia," by J. Ewing Mears, M.A., M.D., of Philadelphia.

"Trephining for Insanity Following Depressed Fracture of the Skull," by Wm. A. Byrd, M.D., of Quincy, Ill.

"Trephining for Epilepsy," by Wm. T. Briggs, of Nashville, Tenn.

"Extirpation of the Tongue," by Basil Noris, M.D., of the U. S. Army, Washington.

"Two Cases of Malignant Degeneration of Ulcerating Surfaces, with Special Reference to their Value in Reference to the Primary Origin of Malignant Growths," by T. F. Prewitt, of St. Louis, Mo.

"Artificial Respiration in the Sitting Posture," by Henry F. Campbell, M.D., of Augusta, Ga.

"Clinical Notes on the Pathology and Treatment of Ganglia of the Tendons of the Hand and Foot," by Donald Maclean, M.D., of Detroit.

"Supra-Pubic Lithotomy," by W. S. Tremaine, M.D., U. S. Army, Buffalo, N. Y.

"The Localization of Perinephric by means of Chemico-Anatomical Study," by John B. Roberts, M.D., of Philadelphia.

The remaining papers were read by title only, and ordered published in the volume of Transactions.

In the executive session which followed, Drs. E. M. Moore and L. A. Sayre were elected delegates to the International Medical Congress, and to the British Medical Association.

A committee on necrology was appointed.

On motion of Dr. P. S. Conner, a committee consisting of himself, Drs. Ashurst and Noris, were appointed to investigate the end results of excisions during the late war.

Although it was a matter of current report that no fewer than forty applications for membership in the Association had been received, only four were recommended by the Council, and when ballot was had the result announced was "no election."

In his closing remarks the President pointed out the fact that the Constitution requires that only six papers shall be read at any one session, and recommended that in the future this clause be carefully observed. In the present session there were about thirty papers.

The following officers were elected:

W. T. Briggs, M.D., President.

J. C. Hutchinson, M.D., First Vice-President.

E. H. Gregory, M. D., Second Vice-President.

J. R. Weist, M.D., Secretary.

J. H. Brinton, M.D., Treasurer.

J. E. Mears, M.D., Recorder.

J. S. Billings, M.D., Member of Council.

The Association adjourned to meet in Washington the last Tuesday in April, 1885, and to continue four days.

Active preparations are being made for the American Medical Association.

A large number of receptions are arranged for, and among them one by President Arthur, Tuesday evening. I.Z.

Washington, D. C., May 5, 1885.

COLDEN'S LIQUID BEEF TONIC has, for the past thirteen years, been prescribed by many prominent physicians in various parts of Great Britain and the United States, with exceedingly happy results in cases of Malarial Fever (always so prevalent during the Spring season), and in many other diseases when tonics are required. As its name implies the article is mainly tonic and nutritive in its action, and is peculiarly qualified to supply that stamina and nervous energy which persons enfeebled by bodily disorders so much require, combining as it does an admirable invigorant and tonic adapted to all constitutions.

THE OTHER SIDE OF THE CODE QUESTION.

Editors Lancet and Clinic:

Will you allow a little friendly criticism of your editorial in LANCET AND CLINIC of April 26, 1884, in regard to that much talked of topic, viz.; "The Code Question?"

From reading that editorial the reader is undoubtedly impressed that you favor a change in the old code, and the adoption of a "new code," something after the fashion they now have in New York State, where they recently, in the State Medical Society of the regular physicians of that great State, by a bare majority discarded the old code, or such a portion of it, and adopted a "new code," that permitted the regular physicians of that State to consult with homeopaths, physio-medics, etc.

A careful observer of events and actions of medical societies, in the last three years, since this subject has been agitated, is sufficient to show that to change the code of ethics of the American Medical Association IS NOT popular with the medical profession of this country.

In New York, where the subject has been freely discussed, the "new code" party is largely in the minority, after a careful poll of the physicians in that State.

A large number of the county societies in that State passed resolutions denouncing the "New code."

Several State Medical Societies throughout the Union have likewise passed resolutions denuuciatory of the action of the Medical Society of the State of New York, and the Editor of the LANCET AND CLINIC is respectfully requested to mention one State Medical Society in the United States, outside of New York, that has changed the old code.

You suggest that, at the ensuing meeting of the American Medical Association a "committee be constituted most largely of the younger members of the Association." Why, sir, should such a committee be the "younger members?" Is it not safer to have "old men for counsel?" Why are the young medical gentlemen more interested in the dignity and honor of the medical profession than other physicians who are a few years their seniors?

You say "it is in the interest of the whole medical profession that it should not be divided into factions, and yet that is bound to be the result of the retention of the code in its present form."

Your correspondent fails to see the force of your argument that a change in the old code will destroy factions, and not let any hereafter exist.

A change in the old code would simply satisfy a very small number, which would leave the great mass of physicians DISsatisfied.

And then we are informed that, like the Constitution of the United States, it is time the old code should be amended.

The probabilities are that in such an illustration they are not parallel. The designs of each are dissimilar, and the objects to be gained are totally different. With equal propriety we might ask for a change in the decalogue given to Moses on Mount Sinai, or we might request that the rules be changed that shall govern the actions of a gentleman in his intercourse with his fellow men.

The truth is, Mr. Editor, that the old code has stood the test of ages, and "has been a mighty factor in the elevation of the standing and education of the medical profession." It has given good satisfaction, yes, almost universal satisfaction, not only in a majority of the County Medical Societies heard from, but also in all State Medical Societies except one, and likewise in the American Medical Association.

Is it not wisdom to retain that which in experience of the past has been found beneficial? For about one-third of a century the code of ethics of the American Medical Association has been of recognized authority by the regular medical profession of the United States, and has been the only tribunal to which appeals could be made, until, within a short period, we hear a few only, clamoring for a change in the code, and for purposes, it has been said, merely mercenary. Would it not be better to let well enough alone? No greater progress was ever made in the science of medicine, since the time of Hippocrates, than has taken place in the last quarter of a century, and it is a fact worth recording that this progress was made and published to the world by the brilliant minds of the members of the regular profession who are in favor of the old code.

In conclusion, it is becoming to add the words recently uttered by an aged and honored professor, who says: "Let me, as parting counsel of one not without experience in life, adjure you to hold fast to this rock of safety, and far from aiding to abrogate it, to strengthen and perpetuate it by every means in your power."

Respectfully,

OLD CODE.

Covington, Ind., May 5, 1884.

WE take great pleasure in giving our correspondent space for what he is pleased to call *the other side of the Code Question.* We plead guilty to the charge of being in favor of amending the old code, providing an amendment is desired by a majority of the regular medical profession, as stated in our comment on this subject in our issue of April 26th. We would favor the appointment of a committee for the purpose of drafting amendments to the old code, and the submission of those amendments to the Societies at this time allowed representation in the profession for approval or disapproval. A majority of the whole profession would in this manner have a voice in this very important professional legislation.

Our own views as to the character of the amendments would not be as our correspondent implies, after the fashion of the new code of New York, but would consist largely in an eliminating process. Some sentences, and perhaps some entire sections, would be left out. Where ambiguity exists, unmistakable Anglo-Saxon would be substituted. As intimated, we are not of those who believe the old code to be divinely inspired, like unto the decalogue, but, like all of man's creations, more or less imperfect, and susceptible of improvement.

Very desirable amendments can be made in the old code that would not necessarily let the bars down for consultation at will with all sorts of quacks.

Our correspondent asserts that a change in the code is NOT popular with the medical profession of this country. Our plan as proposed would effectually test this assertion; from careful inquiry we are convinced that a very large number of the regular profession are in favor of a change, and that although members of State and County Societies, endorse the code, they are in the habit of violating the plainest precepts of the code at their own sweet will. In fact, we are reliably informed that in a city of more than forty thousand people in this State there are not more than three members of the regular profession who do not habitually violate the code whenever it is believed to be in their interest to do so. We wot of other places where continued violation of the code is the rule and not the exception; and yet the medical gentlemen of those sections are active members of the American Medical Association now in session.

We are requested to mention one State Medical Society in the United States, outside of the State of New York, that has changed the old code. We submit that no amendment to the code has ever been referred back by the American Medical Association to a State Society for approval or rejection.

Why do we prefer that a committee of revision should be largely composed of young men? We stated that the younger men are more directly interested, and further, the charge has been frequently made that the Association is and has been managed by a little ring of gentlemen who have for so long a time believed the old code to be a divinely inspired instrument, a violation of which should at once consign the culprit to professional hades, that we believed a large committee composed of the younger members would lift the matter clear up and out of the influence of the heretofore governing circle.

Again, our correspondent says! "A change in the old code would simply satisfy a very small number, which would leave the great mass of physicians dissatisfied." We think our proposition of submitting the amendment to a vote of all the societies a refutation of this charge.

The charge is made that a change is desired only from mercenary motives. We reply that the great majority of physicians practice their profession from mercenary motives. Mercenary motives induced them to study the healing art. Mercenary motives governed them in their selection of a location in which to practice their vocation, and mercenary motives govern their every day lives, even in advocacy of the retention of the old code.

Because the code has stood the test of a third of a century, and at the end of that time there is a respectable number of regular physicians who dare to think a revision and amendment should be made, only indicates the imperfection of the document, and that it is of human and not divine origin.

That medicine has made great progress as a science during that time has nothing whatever to do with the code. In countries where no code whatever existed, as important discoveries and investigations have been made as in this country, with all its allegiance to the code.

Finally, we propose to adhere to the code, and professionally govern our actions according to its teachings while it is the recognized law of the profession. At the same time, we believe it to be susceptible of amendment in the interest of the whole profession.

PROF. FRERICHS.

The news, which comes from Berlin, that Prof. Frerichs has been honored with the title of "von" by the German Government, has been received with pleasure by every lover of scientific medicine the world over. It may not, therefore, be uninteresting to the readers of the LANCET AND CLINIC to know something about the man.

Friedrich Theodore Frerichs was born at Awich, a small town in Prussian Hanover, on the 24th of March, 1819, studied natural science and medicine at Göttingen and Berlin, and began his life work as a physician in his native town at the age of twenty-three. After visiting Vienna, Prague, Holland, Belgium and France, for purposes of study in their celebrated clinics, he received his first appointment as "Privat-Docent" in Göttingen in 1846. Soon after, he became assistant to R. Wagner in the physiological laboratory; took the direction of the Polyclinic at Kiel in 1850; was made professor of Pathology at Breslau in 1851, and was called to Berlin in 1859 to succeed Schönlein as Professor of Internal Medicine and Director of the Medical Clinic in the Charité Hospital.

His chief work, on Diseases of the Liver, appeared in 1859-62, and soon became the standard work on that subject. He was the promulgator of the theory that uræmic convulsions are produced by the decomposition of urea into carbonate of ammonium, and the latter's direct poisonous effects. It would, however, take up too much time and space to enumerate all his works. Suffice it to say, that he has written a great deal, and never anything which was not valuable and authoritative.

The writer remembers very well the first impression which Prof. Frerichs made upon him. A tall, slender man, dressed in black, with high, receding forehead, and straight profile from eyebrows to chin; smooth shaven face and prominent nose; a modest but very solemn manner: such were the prominent characteristics of him who entered the lecture room and was received by the students standing, as is the custom in German universities. After seating himself upon the edge of a table, he put one foot upon the edge of the bed in which the patient lay, clasped his hands about the knee of the leg so elevated and began to lecture. His voice was low, and had rather a mournful cadence. He gave the impression that he was "preaching the patient's funeral sermon." Afterwards, when he was fairly started in his talk, one lost sight of all peculiarities of delivery and became engrossed in the subject-matter presented. Not a superfluous word; no great wealth of illustration except from similar cases; but every word was pregnant with thought and experience, so that when he finished you felt as though nothing could be added that would make the matter clearer, and as though a substantial addition had been made to your stock of knowledge. His only attempt at saying anything funny was when some luckless student made an egregious error either in diagnosis or therapy. If the case were doubtful he was ever ready to help with leading suggestions; if, however, it were a perfectly plain case, and the "praktikant" blurted out with some foolish guess, the professor would quietly remark, "luckily for the patient you are not his physician."

The writer can speak from experience when he says that Prof. Frerichs' whole conduct to foreigners is marked by a courtesy and cordiality which puts one at his ease at his first interview. Although he had never seen me before, nor had I letters of introduction, nor, indeed, anything as a recommendation, still he gave me the priviledge of visiting the wards whenever I desired, and, whenever there, he apparently took great pleasure in demonstrating some interesting case or other.

He is now sixty-five years of age, rather delicate in health, but still working away, trying to clear up some of the uncertainties and doubts of medical knowledge. Let us hope that many years of usefulness may still be given and new honors showered upon him. ROBT. W. STEWART, M. D.

A PENSION CERTIFICATE.

Suggestive reply to Dr. Moore's "request" in LANCET AND CLINIC of April 26, 1884.

BRADFORD, PA., May 1, 1884.

Editors Lancet and Clinic:

DEAR SIR:—But few medical gentlemen imagine themselves diagnosticians, and it is not surprising that brother Moore, of Amelia, Ohio, should ask aid from you or some of the many readers of the LANCET AND CLINIC in regard to the disability of the Pension Examiner referred to, or that of his anxious and perhaps worthy applicant. I am very willing to render Doctor Moore all the assistance in my power. In throwing up the sponge as a sharpshooter at the soldier target, however, would suggest that the (Pension) Examiner case might prove to be a Darwin's missing link, assured by an autopsy after the fellow's decease to be atrophy of the cerebral hemispheres, with elephantiasis of supernumary testicles. Yours,

T. HERRON, M.D.

ANTISEPTIC PROPERTIES OF BICHROMATE OF POTASH.—Some experiments mentioned by the *France Médicale*, Jan. 4, 1884, show that urine, blood, milk, and other substances can be preserved from putrefaction during several months by the addition of 1 per cent. of their weight of this salt.

Society Reports.

AMERICAN MEDICAL ASSOCIATION

THIRTY-FIFTH ANNUAL SESSION.

Washington, D.C., May 6, 7, 8 and 9, '84.

[Specially reported for the LANCET AND CLINIC.]

The American Medical Association assembled in general session in the auditorium Congregational Church, corner of 10th and G. streets, N.W., at 10:30 a.m., Tuesday, May 6th.

During all the day preceding the meeting the registration books were open to the delegates, and nearly seven hundred had entered their names. A very large number were hindered from registration on account of the exceedingly awkward manner in which the registration is habitually conducted. Delegates form in a line *a la mode* of buying tickets for a circus, and are compelled to wait until their certificates are filled out by what seems a phenomenally slow process. There is but *one* place of registration.

The General Session

was opened with prayer by the Rev. Dr. W. A. Leonard, Rector of St. John's Episcopal Church, that attended by the President.

The last ex-President, Dr. John L. Atlee, of Pennsylvania, being absent, Dr. Alex. Y. P. Garnett formally introduced the Chairman, Austin Flint, M.D., of New York.

Annual Address of the President, Austin Flint, M.D., of New York.

The President spoke first of the early history of the Association. There are not many of the original members, he said, now remaining to attend its meetings. He felt, therefore, that as one of that original number, he was the more privileged to speak of its early days.

The American Medical Association met first in Philadelphia in pursuance of a call made at a society in New York. At that meeting nothing was done but to prepare for a second meeting, which was held in May, 1847, at Philadelphia, with two hundred and fifty delegates present. At this second meeting the enthusiasm and the desire for the promotion of the work thus begun was more than could have been expected. It was at that meeting that the Constitution, By-laws, and Code of Ethics were adopted. The objects of the convention, as then stated, were the interests of the practitioner of medicine; the advancement of the knowledge and usefulness of the profession, and its protection against the oppressing practices of the legal fraternity. It was also determined at that meeting that the body should be composed of representatives from all parts of the country.

It was thus shown that the Association, in its early meetings, was a trial only, but now, after thirty-four successive sessions, it is well established and in a healthy condition.

The speaker then announced as his text the preamble to the Constitution, which he read:

"WHEREAS, The Medical Convention, held in the City of New York in May, 1846, have declared it expedient 'for the medical profession of the United States to institute a National Medical Association'; and,

"Inasmuch as an institution so conducted as to give frequent, united, and emphatic expression to the views and aims of the medical profession in this country, must, at all times, have a beneficial influence, and supply more efficient means than have hitherto been available here for cultivating and advancing medical knowledge; for elevating the standard of medical education; for promoting the usefulness, honor, and interests of the medical profession; for enlightening and directing public opinion in regard to the duties, responsibilities, and requirements of medical men; for exciting and encouraging emulation and concert of action in the profession; and for facilitating and fostering friendly intercourse between those who are engaged in it."

This was as it had been adopted at the meeting in May, 1846, at Philadelphia, and in it, he said, were well embodied the objects of the Association.

The speaker then referred to the progress that has been made in the science within the last quarter of a century, especially in the fields opened up by the improved use of the microscope, histology, and pathology, which, he said, have gone far to establish the true nature of many diseases, their history, and the treatment suited to them.

Reference was next made to the Committee on the Requirements for Graduation. These, the speaker said, did not apply to the present day, since all of our colleges not only comply with the requirements therein contained, but are much in advance of them. Yet, notwithstanding this fact, there is room for advancement and increase of the facilities for medical education. It was the custom in olden times—and the custom still prevails to a considerable extent—for the student to spend one, two, or three years in the office of a physician, whom he considers his preceptor; but aside from the little he learns from reading, and some familiarity with medicines, and an occasional question while riding into the country, little of value is to be obtained from this method. Private, systematic teaching is greatly to be preferred.

The Committee also recommended a thorough English education before entering upon the study of medicine. Although they recommend, also, the study of Greek and Latin, and although there are advantages in it, yet the student would find it much more to his advantage to occupy the time thus spent in the study of such modern languages as French and German, as well as chemistry, physics, etc.; and yet it can be truly said that the general education of our profession is better in this country than it is abroad.

To the question, What can we do to advance medical education? the President said he would confine his reply chiefly to what we should *not* do. There every now and then appears some complaint against the efficiency of our colleges. Most of such complaints are unjust. There are very few colleges in this country that are not desirous or that do not make efforts to advance the standard of medical education. The colleges have all their standard and their prices, and fortunately there are but few of them that will offer inducements to students in the form of a reduction of the fees. It is true that there are every year a considerable number of unqualified men graduated from our colleges; but this can easily be stopped, and that more quickly and certainly by the preceptors, in their advising their students to attend only schools of higher standard, and not allowing young men to enter the professional studies before they have at least acquired a sufficient preliminary English education. Another plan for the attainment of a higher standing and dignity of the profession has been suggested, in the making of the title M.D. an honorary one, making the examination for graduation and for the degree entirely separate.

In reference to the Code of Ethics, the speaker said that to sum it all up the practitioner should so act as to honor his profession. The profession must be honored. He lamented deeply the action of the New York Medical Society, by which it had severed itself from the body of the profession. But in that action one important fact appears: that the enforcement of the Code of Ethics lies with the local societies. If they enforce it there will be no further questioning. It is the duty, then, of these societies to decide whether or not it shall be adhered to by them, and if it is not adhered to, they can not be represented in the national assemblies. Some persons are not satisfied with the section of the Code of Ethics relating to the practice of irregular practitioners. There is here, the speaker thought, some ground for complaint, since the language used in this section is better adapted to what was, at the time of its framing, understood as irregular practice. In this connection the speaker recommended that action be taken by the Association, at an early date, to define more explicitly what the profession are to understand as irregular practice.

The President then spoke of the benefit that would arise from a more general enlightenment of the public in regard to medical ethics, if a suitable method for its accomplishment could be devised. He thought a more general diffusion among the laity of the rules governing the profession would be conducive of good.

The advancement of medical knowledge, he then said, in such an assemblage as this, depends to a great extent upon the work done in the several sections. Much can be done there, not only for the advancement of knowledge, but also for the promotion of sociability among the members.

The President, in concluding his address, earnestly advised that the Association take action upon the advisability of inviting the International Medical Congress to hold its meeting in 1887 in the United States. He stated that in this request he expressed the wish, not only of himself, but that of Dr. S. D. Gross and many others.

He said, finally, that he was pleased to have had the opportunity of meeting the Association in Washington, where are so many public buildings and places of interest, and sincerely thanked the Association for the distinction it had conferred on him in making him its President.

Then followed the address of the Chairman of the Committee of Arrangements, Dr. A. Y. P. Garnett.

The speaker cordially welcomed the Association to the beautiful Capital of the Nation on behalf of the profession of the city. He spoke of the propriety of a body looked to by the medical profession of the United States as entitled to form its laws meeting in the place where laws are made. There are no laws, he said, more important or better for our fellow men than the laws enacted by this Association. For the wise and suitable government of the nation, as well as for the success of labor, we recognize no laws superior to those discovered and promulgated by our profession.

While members may come to the Association with prejudices and notions, they are not governed by sectional interests or ambitions; they are actuated by higher ambitions.

The truths discovered by the physician are the public property of the profession. We have no monopolies, no secrets in therapeutic knowledge. Our study is one of the widest in range that exists.

The speaker referred also to the great importance of periodical meetings of the Association of the kind in progress. No one can estimate, he said, the good to be derived from them. He further predicted for Washington a prominent place in the future of those intellectual and developmental studies which do so much toward the shaping of the destiny of our people.

In concluding his address, the Doctor spoke of the evil that might be done to the Association by attempting to change any of the time-honored laws that have governed it from its foundation.

During his remarks the speaker referred to the manner in which members of the Constitution openly and repeatedly violate the Constitution by not reporting the titles of their papers until long after the time specified, and he urged the importance of measures intended to regulate the error. He also spoke unfavorably of the office of assistant secretary, advising that the duties of the office be more explicitly defined, since at present there seems to be no clear understanding with regard to it.

He *did not* speak of a change in the manner of registration, but if his mind had been unimcumbered by many other important duties, no doubt he would have done so.

The Committee of Arrangements reported the appointments made for the various meetings of the General Sessions and the Sections, and announced the following receptions:

By the President of the United States at the Executive Mansion, Tuesday evening. Mr. and Mrs. L. Z. Leiter, the same evening, later.

Medical profession of Washington, Wednesday evening.

Illumination of the Corcoran Art Gallery and reception by Mr. W. W. Corcoran and Board of Trustees, Thursday evening. On the same evening, also, receptions by Commissioner and Mrs. Loring, Mr. and Mrs. Hildrup, and Chief Justice Waite.

On Friday a reception by the Surgeon General and Staff of the U. S. Army, and a reception by the Hon. Geo. F. Edmunds, President *pro tem.* of the Senate, and Speaker Carlisle of the House, at the Capitol.

Invitations were also given to visit the Army and Navy Medical Museum, the National Insane Asylum and Hospital, Smithsonian Institute and other places of interest.

Letters of regret were received from a number of gentlemen at home and abroad who had been invited to attend the meeting of the Association. A telegram from Dr. John L. Atlee was also received regretting his inability to attend.

The report of the Committee on Registration was read in full, although objection was raised by several members.

Dr. J. H. Trumbull, of Chili, was asked to sit with the Association as a member by invitation. The Medical Profession and several others were voted members by invitation, when the action was shown to be unconstitutional. A motion was then made, which, being announced from the chair, caused slight amusement. It read that these members be "invited to sit on the floor" with the session.

The election of permanent members was, by vote, omitted.

A vote of thanks was tendered the President for his excellent address and the manuscript requested for publication.

Dr. J. M. Toner moved that a telegram be sent to Dr. Samuel D. Gross, stating that,

WHEREAS, It had come to the knowledge of the American Medical Association that he was very ill, therefore it was

Resolved, That the Association express their heartfelt sympathy in his illness, and the sincere wish for his speedy recovery and long preservation to a life of such honor and world-wide reputation as he had so justly attained.

Dr. Richardson, who had just left the bedside of Dr. Gross, stated that as he was leaving him the distinguished surgeon had requested him to give the Association his love.

A number of papers were reported and referred to the various sections, among them, one by Dr. Geoge Sutton, of Aurora, Indiana.

A motion was passed that the International Medical Congress be invited to meet the next time in America, and a committee appointed to prepare the invitations.

On motion of Dr. Garcelon, of Maine, the address of the President was referred to a committee of five to consider the important suggestions made in it and report as soon as possible to the Association.

A motion to return a vote of thanks to Dr. N. S. Davis was nipped in the bud by the remark of a member that it would be more proper to wait until the report of the committee on publications had been received. And here lies a question of no little interest, and one that will in all probability enliven to some extent the usually placid General Session at no far distant day. Great dissatisfaction is pretty openly expressed at the Journal of the Association as it has been during the last year, and strong pressure will likely be brought to bear upon it with a view of taking it to a city where better journalistic work can be accomplished than in Chicago.

The delegates from different States were called to meet immediately, and the session adjourned.

In the afternoon, the several sections met in different halls throughout the city, and proceeded with the work before them. The Section on Surgery and Anatomy was interrupted after the first paper had been read, by a telegram announcing the death of the esteemed member, Dr. Samuel D. Gross, and immediately adjourned.

The following Cincinnatians are in attendance: Drs. W. W. Seely, W. W. Dawson, P. S. Conner, J. T. Whittaker, Thad. A. Reamy, D. D. Bramble, C. O. Wright, Surgeon Austin of the Marine Hospital, J. M. French, A. E. Heighway, B. Stanton, E. Williams, E. G. Zinke,

W. H. Taylor, Mr. Arch Heighway, and others.

Dr. Walter Wyman, of the U. S. Marine Service, formerly of Cincinnati, is also in attendance.

SECTIONS.—FIRST DAY.

At 2:30 p.m., the various sections met and proceeded promptly to carry out the programme as printed, and continued them as far as time would permit. The five-minute rule was pretty generally adopted in the discussions.

Section on Practice of Medicine.

In the Section on the Practice of Medicine, Materia Medica and Physiology, Dr. John V. Shoemaker, Philadelphia, Chairman, the first paper was by Prof. Austin Flint, sr., of New York, on "The Clinical Study of the Heart Sounds." The paper was a masterpiece, in the clear and precise manner in which it dealt with the subject. The discussion was participated in to such an extent that much of the time intended for other papers was consumed.

The next paper was read by Edward Janeway, of New York. Subject, "Simulation of Pathognomonic Signs and Symptoms."

After a brief discussion, Dr. Louis A. Duhring, of Philadelphia, read on "Dermatitis Herpetiformis."

The next paper on the programme was that of Dr. James T. Whittaker, but it had to be omitted, along with several others, for lack of time. It will probably be read first Wednesday.

Section of Obstetrics and Diseases of Women.

Dr. Thad. A. Reamy graced the Chair, and so conducted the meeting that the entire programme was carried out.

The title of the first paper was "Desperate Surgery among Women; the Proper Field for it; who should and should not attempt it;" by Dr. R. S. Sutton, of Pittsburg. The author dealt chiefly with the various ways in which the practice of obstetrics is abused in the hands of unqualified individuals.

Dr. Henry F. Campbell, of Georgia, read a paper on "Mechanical Methods and Appliances in Uterine Dislocations and Distortions."

Dr. Wm. M. Polk, of New York, read on "The Proper Treatment for Cancer of the Uterus."

"Surgical Operations for Cancer of the Uterus," was the title of the next paper, by W. H. Byford, of Illinois. "The Effects of Trachelorrhaphy," the subject of Joseph Taber Johnson, of Washington, and the last paper was by Dr. Edward M. Jenks, of Illinois, on "The Rectal Diseases of Women."

Section on Surgery and Anatomy.

This Section was conducted by Dr. C.T. Parks, of Chicago. The first paper on the programme was that of Dr. Fred S. Dennis, of New York, on the "Treatment of Compound Fractures." In it he gave as the best rule for the treatment, immediate coaptation and fixation of the parts, perfect cleanliness and in certain cases free drainage. He then reported more than a hundred cases that had come under his care and demonstrated that the method of treatment he pursued had been more than ordinarily successful.

Just at the close of this paper a telegram was received announcing the death of the venerable Samuel D. Gross, M.D., LL.D., and after the appointment of a committee to draft resolutions, the Section adjourned for the remainder of the afternoon.

The Section on State Medicine

was presided over by Deering J. Roberts, M.D., of Nashville. The programme of the proceedings was a very short one, only two papers being presented. The first of these was on "Sensationalism and Dogmatism in Sanitary Matters," by H. Leffmann, of Pennsylvania. The second was a paper displaying great depth of ancient lore, by Dr. C. H. vonKlein, of Dayton, O. His subject was "Jewish Hygiene and Diet, from the Talmud, and Other Jewish Writings, heretofore untranslated."

Section on Ophthalmology, Otology and Laryngology.

In this Section Dr. J. F. Chisholm was Chairman. Dr. P. D. Keyser, of Pennsylvania, read on "Neoplasms of the Lachrymal Glands"; Dr. Samuel D. Risley, also of Pennsylvania, reported "A Case of Sympathetic Neuro-Retinitis," and added some remarks on the pathology and symptomatology of the affection.

Dr. E. Williams chose the broad subject of "Diagnosis in Ophthalmology," and showed the many difficulties attending the diagnosis of ocular affections and pointed out the most common causes of error.

Dr. Carl Seiler read a paper laudatory of the "Use of Cresson Water in the Treatment of Catarrhal Affections of the Mucous Membranes of the Upper Air Passages."

The Section on the Diseases of Children, Dr. William Lee, of Baltimore, Chairman, listened to a paper, "The Significance of Bloody Discharges from the Bowels in Young Children," an excellent paper on the diagnosis of the different affections, occurring in childhood, accompanied with bloody discharges. The other paper read was that of Dr. J. W. Brown, of New York, entitled "Diphtheria, based Upon an Analysis of One Hundred and Twenty Cases with a Mortality of Seven."

Section on Oral and Dental Surgery.

Dr. John S. Marshall was Chairman of this Section. Only one paper was read that by Jacob L. Williams, of Boston, on "Importance of and Treatment for Assuring Healthy Dentine over Endangered Pulps."

SECOND DAY—WEDNESDAY, MAY 7.

General Session.

The second day's session of the American Medical Association at the Congregational Church this morning opened with a much larger attendance of delegates than at the session of yesterday. The members were busy in registering their names, and the list this morning contains about 1,200 names. The body of the church was entirely occupied with delegates, and many were compelled to find seats in the galleries. Shortly after ten o'clock the President, Dr. Austin Flint, called the Association to order, and Rev. W. A. Bartlett, D.D., pastor of the New York Avenue Presbyterian Church, lead in prayer.

The Death of Dr. Gross.

The President then announced, in fitting terms and in a graceful vein of eulogy, the death of Dr. Samuel D. Gross, of Philadelphia, and an esteemed ex-President of this Association. The following committee was appointed to draft resolutions of respect to the memory of the deceased: Drs. Austin Flint, N. Y.; L. A. Sayre, N. Y.; J. H. Packard, Pa.; F. H. Hamilton, N. Y.; M. Gunn, Ill.; W. T. Briggs, Tenn.; I. Minis Hays, Pa.

Committees Appointed.

The Committee on Invitation to the International Congress, to meet in this country in 1887, was announced as follows: Drs. J. S. Billings, Washington; L. A. Sayre, New York; R. Fitz, Boston; I. Minis Hays, Philadelphia; Henry F. Campbell, Georgia.

Committee on President's Address—Drs. F. S. Davis, W. W. Dawson, W. T. Briggs, D. W. Stormont, T. F. Prewitt, J. L. Cabell, and H. B. Ransom.

Sanitary Service on Board Ocean Steamers.

The committee appointed to report upon the resolution for securing more competent medical and sanitary service on board trans-oceanic passenger vessels, through the Chairman, Dr. A. N. Bell, made a report. He stated that after due consideration a bill was prepared and placed in the hands of Hon. Henry W. Slocum, member of Congress-at-Large from New York, who had introduced it in the House, and it has been referred to the Committee on Commerce. This bill, which is entitled a bill "to regulate the carriage of passengers by sea," provides that in all such vessels two compartments shall be provided, exclusively to be devoted to hospital uses, one for men and one for women. It requires the employment of a medical practitioner on all vessels carrying other than cabin passengers, where there are over fifty and less than 600 passengers; and where the number of passengers exceeds 600 he is to have an assistant. This surgeon or these surgeons are to rank as such on the ship's list of officers; their pay and term of office is to equal that of the highest officer on board. The surgeon, or where there are two the senior, is required to examine daily the sanitary condition of the vessel, and report to the captain any improvements he regards as necessary.

Dr. Kaiser, of Philadelphia, thought that the bill was a good one, but it did not go far enough, as it should require the surgeon of the vessel to report directly to the United States Government, and not to the captain of the vessel.

Dr. Irwin, of New York, said that owing to the fact that the bill allowed the doctors to be appointed by the company and to be under their control, it was impracticable, and could not be carried out. He favored the plan of making the doctor independent of the company, and in all sanitary matters the authority, subject only to the laws of the United States. There was some question whether the United States had the right to legislate for foreign vessels, but he believed that justice and necessity gave this right. The statistics of mortality upon these vessels showed the necessity.

Dr. Jones, of Pennsylvania, said that from his position as a Government Medical

Inspector he had never found that captains of our vessels interfered with sanitary regulations, or that the hospitals of those vessels were occupied with rope and waste matter. He thonght that the rate of mortality on these vessels was very low.

The report of the committee was then accepted and the committee continued.

A resolution urging upon Congress immediate action in this matter was adopted.

Dr. John V. Shoemaker then read his address as Chairman of the Section of the Practice of Medicine.

After a few preliminary remarks in regard to the difficulty of his subject in consequence of the new theories constantly advanced, the doctor said that in "the field of pathology and pathological research the study of the infinitesimal has attracted great attention, and of the subjects prominently brought to the attention of the profession, and exciting universal interest more than any other, is that of the bacillus theory of tuberculosis and its contagious character. While the presence of micro-organisms in other diseases is being investigated and studied extensively, there is none which has so great a bearing and causes so much comment as this one. Only a few years ago Koch stood almost alone in its advocacy. Now there are numbers of unbiassed observers who confirm his famous discovery. Foremost among these is Watson Cheyne, who visited Koch's laboratory for the express purpose of investigating the subject. His report fully confirms the facts set forth by the great investigator, besides demonstrating the constancy of the occurrence of bacillus in all tubercular structures, as well as of the relative position of the parasitic organism to cell structure. Similar confirmatory evidence has been produced by Pruden, Dreschfeld, West, Gibbs, Heron, Wipham, Meissen, and others, from a clinical view of the constant presence of the bacillus in the sputa of phthisis: while Charnley Smith has even ingeniously demonstrated its presence in the expiratory air of consumptives by filtering it through gun cotton, dissolving it in ether, and then fixing it on microscopical slides for inspection.

"Dr. Austin Flint, Sr., accepts the new theory, as well as the etiological character of this micro-organism when added to predisposition, leaving the subject of contagion dependent upon the causative element combined with the favorable soil for its propagation, ascribing the usual absence of contagion to a lack of predisposition, and considers the presence of the bacillus as one of the most essential elements for the diagnosis of phthisis. Drs. Janeway, Welch and Peabody, well known authorities on this subject, concur with Dr. Flint in his views; likewise Dr. H. C. Ernst in his contribution presented to the Massachussets Medical Society, besides numerous other investigators, both here and abroad.

"The presence of the bacillus has been observed in other tubercular lesions than the lungs; as the mouth and soft palate, by Guttman and Finger; in the skin, by Cornil; in lupus, by Demme; in the uterus, by Lindsey Stephens; in the urinary tract, by Rosenstein, Babés and Cornil, as well as in rectal abscesses, by Smith. Dr. Wilson Fox admits the fallacy of his former experiments, and accepts the theory of the contagious character of the virus, and that injury to the rodents is not followed by tuberculosis, as previously expressed by him.

"Now, while the adherents to Koch's theory have increased wonderfully, there are not those wanting who are open in their criticism, and are opposed to the acceptance of anything like a bacterian origin of tuberculosis or any other diseases. Their opposition is not based merely upon assertions or clinical evidence, but the result of observation and experiments, conducted here as well as at the very birth place of the bacillus theory. Amongst those most prominently arrayed against it are Spina, of Vienna, Fihkler and Eichler, who pronounce the staining methods of Koch as fallacious and misleading, while Feltz admits his failure with cultivation by following Koch's method.

Formad, in this country has made a most vigorous artack upon it, and has referred the etiology of tuberculosis to histological changes rather than to parasitic invasion, in which deduction he is supported by many eminent pathologists, such as Longstreth and others. In his denial of the contagiousness of tuberculosis he is in accord with the opinions of Virchow, Recklinghausen, Stricker, Gull, Williams, Watson, Paget, Humphrey, Richardson, Bennet, Hiram Corson, Trail Green, N. S. Davis, H. F. Campbell, and others."

The speaker then proceeded to say that the bacillus tuberculosis theory, however, was not the only one that has excited attention. The bacterial origin of other diseases has been earnestly advocated as well. Thus, a micro-organism has been found and studied by Friedlander as a micrococcus of pneumonia, and he thought it might serve to explain the occasional epidemic form of that complaint in certain localities. He also mentioned numerous other diseases in which these micro-organisms have been discovered by distinguished scientists, and gave prominence to their theories, according to Koch special honor for his skill in this field of research.

Referring to the subject of medicine, the Doctor said the knowledge of nervous affections, though it had not progressed with the giant strides of other branches of diseases is steadily advancing and emerging from its mysterious enfoldings. The localization of cerebral functions, though now generally accepted, has practically advanced us but little, though the trephine has daringly opened to the neurologist the hidden regions of dura mater and gray matter. Locomotor ataxy has presented in its chronic state three diagnostic points for distinction, that of Duchenne; another depending on diffuse sclerotis of the cord, and medulla oblongata, and a third is made of the ataxy of the periphery,

In dwelling upon typhoid fever he inferred that the treatment by cold baths, of all antipyretics, is now thought to be the most serviceable, if we can trust the statistics of recent investigators, as well as the thorough researches of Sassetzky in the analyses of the excreta. Alluding to renal diseases, he asserted that albuminuria has long been the subject of scientific inquiry, being considered more and more of nerve origin. In close relation to diabetes, with mutual interchange in certain affections, has brought forward the proposition that both albuminuria and glycosuria may be produced by irritation of certain parts of the floor of the fourth ventricle. The hypertrophy of the muscular coat of the arterioles, and the increased tension of the vascular system, are also claimed to be due to irritation of the vaso-motor centers of the medulla. The latter, especially, has proved valuable in modifying the treatment of albuminuria. That the toxic influence of certain substances, as well as severe febrile affections, is productive of albuminuria is well known, and a recent instance has been cited where it occurred after varicella. Peptonuria has been investigated and found to coexist with suppuration from various causes, or with large exudations. Speaking of the disease known as actinomycosis and as being peculiar to horses and cattle he stated that it had been exhibited by Treves in a man, whom he brought before the London Pathological Society. All stages of the disease, from minute solid growths to large suppurating and sloughing masses, were present.

The Doctor thought it necessary in consequence of the grave accusation cast against American pork by some of the European authorities that he should say a few words upon the subject. He said that trichinosis is with us a very rare disease indeed, in comparison to its frequent occurrence in Continental Europe. In spite of the prohibitive edict against our pork in Germany, quite an endemic of trichinosis has prevailed there of late. As there have been isolated cases reported with us, he would refrain from any attempt at defence, but would simply remark that the mortality from trichinosis in this country, in comparison with Germany, would lead us most certainly to discriminate in favor of our product to that of the foreign—even if we do not attribute our comparative immunity to the more civilized manner in which we partake of it than the semi-barbarous fashion of eating it uncooked. French physicians, in the Academy of Medicine, of Paris, have already given their opinion that American pork is not as dangerous as the trichiniphobist would have us believe, and recommend that the prohibibition to its importation be removed.

After discoursing of other interesting matter, particularly on the subject of cholera and yellow fever, Dr. Shoemaker turned his attention to the subject of therapeutics and remarked that while in past years they were ignored to a great extent by many physicians and scientist, they have undoubtedly now assumed new features entitling them to a prominent position. Entering into details he gave a list of some of the permanent remedies which have found approval during the past year, such as kairin among the antipyretics; paraldehide, a substance isomeric with aldehyde; the *Abus precatorius*, the jequirity bean of Brazil; the salts of nickel, and especially its bromide; the bismuth salicylate; nitroglycerine; and the chloride of gold and sodium, etc.; in connection with them mentioning the diseases to which they were applicable. Treating of antiseptic inhalations he claimed that the vast research in the field for micro-organisms as causative elements of disease and the discoveries made therein, have given a new impetus to antiseptic treatment in every branch and affection. Antiseptic inhalations for pulmonary disease have proved of value whether the germ theory be sustained or not.

In concluding his address he directed the attention of those entering the profession to the necessity of thoroughly mastering the details of all its different branches; above all that of general medicine before entering into any specialty; and spoke of the desire on the part of a few to form exclusive organizations, which he argued were highly detrimental, and denounced them severly, saying that medicine, "to be beneficial to humanity, must be open to one and all, and if its practitioners are to be excluded from medical societies and their meetings—not from a lack of knowledge and good standing—such societies have outlived their usefulness. Special studies may be made by physicians in certain directions, but the advantages of their research and study must be verified by their practical demonstration through the general practitioner. Without a thorough knowledge specialism avails little. This powerful organization should represent every branch and specialty of medicine, and its knowledge should be open to all its members. We are all entitled to the benefits derived from associated investigations. Outside organizations on special subjects will detract from the interest and advantages of our meetings, and the younger members, neglecting the general subject of medicine, dazzled by the apparent brilliancy of a select few, will wander forth to ultimately destroy their own usefulness. The American Medical Association is the representative body of the medical profession of this country, and has been organized and conducted by gentlemen who have grown gray in its service, and whose brows are adorned with chaplets most worthily won, not only at home but abroad. It is for them, and for you, my fellow-members, to control the means of disseminating our science, and not for a few, who, at best, only form but a spoke in the wheel of the triumphant chariot of our science. Our young men should learn from you that knowledge must come to them by the coöperation of their professional brethren from all parts of our country rather than from a few, who, in their exclusiveness, set themselves above the active members of the greatest and most humanitarian of all professions."

The Nominating Committee then submitted the following report:

Ala., J. Cochran.
Ark., P. O. Hooper.
Cal., F. W. Hatch.
Col., J. Hawes.
Conn. J. S. Porter.
D. C., J. W. Lougjoy.
Dak., H. Galloway.
Del., W. Marshall.
Flor.,———
Ga.,———
Ill.. E. P. Cook.
Ind.. J. B. Haney.
Ia., H. C. Huntsman.
Kas., F. T. Dickinson.
Ky., W. H. Mather.
La., T. G. Richardson.
Me., F. C. Hays.
Vt., H. D. Holton.
W. Va., Leo Beard.
U. S. N., N. L. Bates.
U. S. M. H. S., Walter Wyman.
Mass.. C. H. Savory.
Md., J. R. Lynch.
Miss., B. A. Duncan.
Minn., E. Leassure.
Mo., N. F. Essig.
N. C., C. J. Hague.
N. H., S. P. Mercer.
Neb., J. W. Parsons.
Nev.,———
N. J., J. Parrish.
N. Y., J. W. Souley.
O., W. M. Beach.
Pa., J. B. Murdoch.
R. I., J. H. Eldridge.
S. C.. W. Hughes.
Tenn., J. H. Pope.
Tex.———
Va., Alex. Harris.
U. S. A., J. R. Smith.

Next followed the

Address of the Chairman of the Section on Obstetrics, Prof. Thad. A. Reamy, of Cincinnati.

Dr. Reamy stated in the introduction of his address, that while it was required of the chairman of each of the sections to deliver an address on the advancements made in his department during the year that has elapsed since the last meeting, he would ask the privilege of deviating from the rule. It is no longer necessary, he said, to follow the letter of the Constitution in this regard, since the rapidly printed journals hurried to the practitioner by rapid trains convey in the fullest manner, and within a few hours, any discoveries or improvements that may be made. He proposed, therefore, to take another subject, and believing that he could speak to better effect by reporting facts that have come within his own experience, he chose as his subject

Trachelorraphy,

with a report of two hundred and thirty-one cases upon which he had performed the operation for laceration of the cervix uteri. In this number of cases he had had *no* deaths, and in only six of his cases was any peritonitis, general or pelvic, pelvic hematocele or pelvic cellulitis developed, and of these six only two were at all severe, one of them having a general peritonitis, from the results of which the woman was confined to her bed for six months. Further statistics were also given as to the results of the operation. In only one case, he said, was there a failure to secure union, and in that case he foolishly, as he expressed it, used a cat-gut ligature.

In detailing his method of operating, the Doctor said that he denuded the surfaces by first outlining the part to be denuded with a knife, then removing the mucous membrane and cicatricial tissue with the scissors. He then brought together the edges with Chinese silk sutures, introduced with a curved needle in the jaws of a long needle-holder. By this means he was enabled to perform the operation without dragging the uterus down, thus avoiding the dangers of cellulitis, etc. He allowed the sutures to remain *in situ* for from fifteen to twenty-five days. He had the vagina well washed out for about five hours after the operation, then used no irrigation. During the operation he paid no attention to the antiseptic rules, but enforced all the rules of cleanliness. He operated with a stream of hot water running over the field as constantly as possible during the operation. The importance of allowing pretty free hemorrhage during the oper ation was insisted upon.

The speaker said it was possible that he performed the operation too often, but he did not think it so, since in many of his cases severe and very painful symptoms were relieved. In a large number of cases conception had occurred after the operation. Taking in this connection the fact of the frequency of sterility in cases of lacerated cervix without operation, he believed that the operation aided conception and did not at all cause sterility.

Drs. Buford and Stevens, representatives of the Canadian Medical Association, were invited to seats on the platform, and made honorary members.

An invitation was read from the managers of the New Orleans cotton exposition for the Association to hold its next meeting in one of the rooms of the exposition building.

Senator Palmer and wife have invited the Michigan members of the Association to a reception at his residence, 1601 Massachusetts avenue, Thursday evening.

Vivisection.

Dr. Henry Smith, of Philadelphia, offered a resolution which recited that an attempt was now being made to restrict by legislation the practice of investigation in medical science by experiments on animals. As such restriction is not needed by medical men, and would interfere with medical progress, the resolution provides for the appointment of a standing committee to oppose such legislation by all legitimate means.

Dr. Dalton, of New York, said that this movement originated with an anti-vivisection society, and the effect of the proposed legislation would undoubtedly be to stop vivisection in colleges and schools. A professor would be unable to show his class the process of digestion, or the circulation of blood in a frog's foot. This result was certainly not desirable. The further object of the society, to prevent needless cruelty, would receive the co-operation of the medical profession.

The resolutions were referred to a committee as follows; H. C. Wood, Wm. Pepper, Jas. Tyson, of Pennsylvania; Christopher Johnson, Maryland; J. C. Dallas and Austin Flint, jr., of New York, and J. S. Billings, U. S. A.

Medical Colleges.

Dr. Atwood, of St. Louis, offered a resolution which set forth the objection to medical colleges advertising so generally, as tending to increase the number of scholars and to lower the standard.

Dr. Benjamin, of Maryland, followed with an additional resolution, urging upon all medical colleges the necessity of elevating the standard of education, at least so far as to require a preliminary examination, a register of attendance, and practical demonstrations of diagnostic skill.

"Everybody wants to elevate the profession, and if we can do it by resolution, let us do it," called out Dr. Brodie, of Detroit.

Dr. Henry, of New York, rose to speak on the question, and was expressing his opinion in a rather emphatic way about the disgrace which the medical colleges were bringing on the profession. He was interrupted by motion to lay on the table, which the president put and declared carried. Dr. Henry called out that every time this question had been brought forward it had been squelched in the most undignified way.

A delegate called the attention of the chair to the fact that he had only put the question to lay on the table one way, the negative vote not being called for.

The chair put the motion again, and the result of the viva voce being doubtful, a rising vote was called for, and the Association refused to table the motion by a very large majority.

Dr. Henry then resumed the floor, and expressed the opinion that medical colleges were responsible for the discredit which had fallen upon the profession on account of incompetent doctors.

This remark was greeted with applause, and some hisses were heard.

"There is no use in hissing," exclaimed Dr. Henry, with considerable warmth, "I am an old soldier, and I know that the men who are hissing have some private axe to grind." He then continued his remarks-urging the necessity of elevating the standard of education.

Dr. Robbins, the chairman of the section on state medicine, said that he intended to report a resolution in regard to medical colleges before the adjournment of the association.

The resolution of Dr. Benjamin was then adopted, and the Association adjourned.

The Reception at the White House.

The President's reception to the Medical Association proved one of the largest given at the Executive Mansion this season. The Marine band was stationed in the hall, and the entire house was thrown open, so that the guests might stroll through the conservatory and from room to room as they chose. Yet the crowd soon got to be so great that even with this extensive freedom they were uncomfortably close. When the doors were opened about two thousand doctors, accompanied by ladies, walked in a close line and received an introduction to the President.

DIGITALIS AS AN ANAPHRODISIAC.—Dr. N. L. Folsom reports in the *Medical World* on the effects of digitalis in the allaying of sexual appetite. Administered in ten-drop doses, three times a day, he declares that it will effectually overcome the imperious passion. It may be necessary to increase the dose to a teaspoonful in some cases. If it shall do in the hands of others what Dr. Folsom claims for it, the discovery will prove to have been an important one.

THE USE OF MULLEIN as a palliative for the cough of phthisis seems to be meeting with favor in various quarters. The customary form of administration has been a milk decoction of the plant. More recently the smoking of the leaves has been recommended as a more agreeable and effective method of administration.

THE CINCINNATI
LANCET AND CLINIC
A Weekly Journal of
MEDICINE AND SURGERY,
ISSUED EVERY SATURDAY.

TERMS, $3.50 PER ANNUM IN ADVANCE.

☞All letters and communications should be addressed to, and all checks, drafts, and money orders made payable to
DR. J. C. CULBERTSON,
EDITOR AND PUBLISHER,
281 W. 7th STREET, CINCINNATI, OHIO.

SUBSCRIBERS TO THE LANCET AND CLINIC who have not already remitted their subscription will confer a favor on the publisher by promptly doing so.

Cincinnati, May 10, 1884.

The Week.

CINCINNATI HOSPITAL. — The Twenty-Third Annual Report, for the year ending December 31, 1883. H. M. Jones, Superintendent.

This report is embellished with an excellent steel engraving of the late Dr. W. H. Mussey, of the Surgical Staff, deceased August 1, 1882, accompanied by a short obituary notice.

The financial statement exhibits a deficit of $1,996.79, in addition to a deficit of $12,990.93 carried over from the previous year. The Cincinnati Hospital is somewhat anomalous in its financial management as a part of the municipal organization of the city, the trustees being empowered to levy a tax for its sustentation, such levy being exempt from revision by the Tax Commission, City Council, Mayor, Comptroller, or any body else, save and except their own honorable selves; the same in regard to the expenditures of said levy. We are informed by this report of the amount of money expended for provisions, salaries, clothing, interments, etc. An institution or board that levies a tax on the people for support should be amenable to a review of its expenditures by the board of tax commissioners or some other duly authorized body.

The gentlemen at present constituting the board of trustees are, without exception, believed to be honorable and honest officials, but, as honest men, they should not ask the Legislature to confer on them a special exemption from a revision of their expenditure of the people's money. The principle is a wrong one in establishing a precedent, lately followed by the school board in obtaining similar special legislation. Boards of revision are a necessity in city governments and should not be feared by honest officials.

We note also that some of the board have been in office continuously for from ten to more than twenty years, a period entirely too long to exact the unsalaried service of the average citizen in administering the affairs of a city hospital. With power to levy taxes, and no one to interfere, e'en the best of men get to look upon such a place as a part of their individual possessions, forsooth, because it is.

The Medical Staff, composed of one consulting physician, four physicians, four surgeons, two obstetricians, two oculists, two pathologists, two curators and microscopists, one physician to branch hospital, one senior resident physician, and six resident physicians. Here again we are confronted with the names of most excellent gentlemen who have continuously given their almost daily services to the city for from ten to more than twenty-five years. The meekness and uncomplaining servility of Moses is only comparable with the unsalaried labors of these gentlemen. Is it possible that in a city of more than three hundred thousand people there are no competent medical gentlemen who would be willing to relieve these veterans of such long-continued gratuitous service? Such an imposition as has been practiced in these cases, and solely because of the meek and amiable disposition of the burden-bearers, should in all conscience be brought to an end, and not wait for the good Lord to exercise his mercy by translating them to a better land.

From the report of the Medical Staff, of which Dr. J. H. Tate is President, we learn that during the year there were admitted 3,148 patients; of these 2,761 were discharged, cured or improved, 372 died, and 267 remain. The clinical lectures were attended by an unusually large class. The Hospital Library continues to grow.

Dr. Tate calls urgent attention to the great necessity of adopting a plan for educating nurses in the Hospital. We urged the adoption of a training school for nurses in the Hospital ten years ago, and the necessity for such an arrangement is becoming more and more imperative; and as stated by Dr. Tate, it is a work that is entirely feasible, and has been in successful operation for several years in other cities.

An equally important measure is called attention to—the licensing of midwives. He says:

> I would also call your attention to the advisability of establishing in connection with the Hospital a school for the education and license of midwives.
>
> A large portion of the obstetrical practice in this city always has been, and yet continues, in the hands of midwives. As a class they are sadly deficient in general intelligence, and still more in that special knowledge which is required for the proper discharge of their responsible duties. As a direct result of this ignorance, I have no doubt that many valuable lives are annually lost in this community. There should be some means employed to protect our families from such lamentable results, and this can only be done by instructing and licensing all women engaged in this pursuit. The obstetrical wards of the Hospital are calculated to give this instruction in its most efficient and practical form, and I have no doubt that by the concurrent action of the Health Officer and Hospital Trustees that a law could be easily obtained, compelling all midwives practicing in our large cities to undergo an examination before a properly authorized Board, and to

take out a license before practicing their calling.

Inasmuch as fully three-fourths of all cases of midwifery in Cincinnati are attended by midwives, Dr. Tate's suggestions are none too urgent.

May we not hope—aye, we will hope on—that some day in the near future there will be an awakening from a lethargy that reminds us of poor old Rip Van Winkle's twenty years' sleep; when the opportunities for doing the most good to the people of Cincinnati, the medical profession, and all concerned, will not be frittered away or absolutely confined to a blessed few, who, under the present *regime*, are permitted seemingly to go on and on forever.

ADMISSION OF FOREIGN PRACTITIONERS TO HOME PRACTICE.—Apropos of the proposition in the Medical Bill that foreign practitioners are to be admitted to practice in Great Britain if the Medical Council considers that their educational standard is sufficient, we notice that a new medical college has been organised in Cincinnati, under the title of the "Medical University of Ohio." This will make the *fourteenth* medical college in the State of Ohio. It would be interesting to know beforehand the method by which the Medical Council is to assess the educational status of the Medical University of Ohio, No. 14, and whether there is not a reasonable objection to the admission of the *alumni* of such an institution to the privileges of home practitioners whose status we know.—*Medical Press.*

On seeing the above in a late issue (April 23, 1884,) of the Medical Press and Circular, we are again constrained to announce to the medical world that the Medical University of Ohio is a sham. No such institution has ever existed except on paper. We are fain to believe it is a diploma selling affair.

MAY MUSICAL FESTIVAL.—Until the sale of seats for the May Festival had been in progress some time, there were grave doubts of the financial success of the enterprise, owing to the failure of other entertainments on a grand scale this winter. The May Festival, however, is an old favorite, and its merits are well known. The success of the sale of seats, which is in progress at the music store of John Church & Co., proves that the public interest in these concerts is unabated, and a very large crowd will be in attendance at Music Hall on the opening night, the 20th inst.

THE American Laryngological Association will meet at 12 West Thirty-first street, New York, May 12th, 13th and 14th. The profession are cordially invited to attend the sessions.

ACADEMY OF MEDICINE.—At the next meeting, Monday evening, May 12th, Dr. Nickles will read a paper on "Digitalis."

Selections.

MEDICINE.

PSEUDO-GASTRIC EPILEPSY.—Dr. Armangué, in the third session of the Certamen Frenopatico of Barcelona, reported two curious cases of pseudo-gastric epilepsy. The first was a man who, with no neurotic antecedents, after injury to the brain with fracture of the cranial bones, suffered from ophthalmic migraine on the same side as the fracture. To this succeeded a partial epilepsy, true Jacksonian epilepsy, localized invariably in the upper extremity of the opposite side. This epilepsy was probably due to the injury of the parietal bone. From a fright or other cause the partial epilepsy became general, but still the attack began always in the arm originally affected. The attack could be sometimes avoided by compression of this arm. In all other respects, this general epilepsy could not be distinguished from so-called essential epilepsy. Some time after being subject to these attacks of epilepsy, a painful gastric affection with hematemesis appeared. At first this did not coincide with the attacks of epilepsy, but afterwards always announced or accompanied them. Dr. Armangué considers this case interesting for the following reasons: 1. It is one of those which may be treated by trephining. 2. It shows the relationship which exists between epilepsy and ophthalmic migraine. 3. It is a good example of cortical epilepsy. 4. It proves that Jacksonian epilepsy may be transformed into general epilepsy. 5. The fracture of the parietal bone agrees with the motor centres of the arm, the arm being convulsed in the partial epilepsy of this patient. 6. It is curious from the form of aura which preceded the attacks. 7. No form of postepileptoid paralysis, which is common in this class of attacks, was seen. 8. It might be confounded with gastric epilepsy, but the epileptic attacks preceded the gastric affection by many months. Rather it is to be thought that the gastric pains and hematemesis were due to the epilepsy. The hematemesis may be compared to the hemorrhages of the hysterical (neuropathic hemorrhages), the gastric pains being a prodroma or aura of long duration.

The second case is that of an individual who, after a severe fright, began to suffer from gastric pains, and after four months was seized by a first attack of epilepsy. During the first year of his illness, he had attacks of hematemesis. The gastric pains accompanied digestion. The epileptic attacks never appeared without the gastralgia. Dr. Armangué shows that in this case the epilepsy was not due to the gastralgia, but that both, as well as the hematemesis, started from the fright. The stomach excited the attacks, but did not produce them. It may be considered that in this case the *zoni epileptica* was in the stomach. True gastric epilepsy must be caused solely by the affection of the stomach. In all cases in which epilepsy is due to other causes, as injury or fright, although the epileptic attack coincides with gastric disturbance, we have not to do with a gastric epilepsy. At first sight they may sometimes be confounded with this, and therefore he proposes to distinguish these epilepsies by the epithet pseudo-gastric, to distinguish them from true gastric epilepsy, and to indicate the curious variation of gastralgia with epileptic attacks.—*London Medical Record.*

THE "GOUTY KIDNEY."—Professor Virchow recently gave an address on the "Gouty Kidney." ("Nephritis arthritica"), which is reported in the *Berliner Klinische Wochenschrift* for 1884, No. 1·

The literature of the subject, he said, is not so satisfactory as might be expected. The question of uric acid concretions is mixed with it, whether as renal gravel or calculi, or as vesical calculi. We possess works with such titles as "Gout, Stone, and Gravel" which by their very titles presume such a connection. The speaker could not, from his (mainly anatomical experience,) agree with this. As to stone in the bladder, in most cases there is no gout at all; and as to renal concretions, there is great doubt about any conection with gout. He would deny at once the existence of any necessary coincidence, and so far he had never seen any special tendency to renal calculi in his gouty patients.

But one point, often overlooked, must be remarked, namely, the rather frequent existence of gouty cases without any paroxysmal attacks. *Post mortem,* we meet with cases showing the chief coarse characteristic changes due to gout, when during life no gout has been suspected. There are thus a paroxysmal gout and a latent gout; and we might accept the old view of a gout of the rich, and a gout of the poor, provided we struck out chronic deforming arthritis, which certainly has no connection with chronic uric acid arthritis.

Paroxysmal gout is evidently connected with an excess of highly nitrogenised tissues in the body, but it is erroneous to think that this depends on a too free consumption of such substances in the food. The peculiar disposition of the body shown by the accumulation of uric acid, does not depend on the diet; some other condition underlies it, as to which the speaker would offer no opinion. He would only say that, given the gouty diathesis, and it might be inherited, it would show itself under the most different kinds of diet.

Turning now to the kidney, there is one special form of gout in which uric acid deposits are found in the kidney, not merely as "gravel" in the pelvis or calices, but rather as fine deposits in the kidney itself, in the uriniferous tubules. They are only found in the tubules of the medullary portion, and may appear to the naked eye as fine white striæ. On examining with the microscope, colourless rhombic tablets are found, and not mere needles, as in tophi. By careful sections at such sites, these accumulations are found to occur in dilated portions of the straight tubes, which here present a kind of varicose dilatation. In the vast majority of cases, similar deposits are found in the smaller joints, especially those of the great toe. Do uric acid deposits ever exist in the kidney alone; and could gout be affirmed merely from their presence there? As a fact, they are very seldom missing from the smaller joints when found in the kidney. Professor Virchow, however, is inclined to regard the presence of renal deposit as a proof, in itself, of gout. Some other condition of the body may be yet proved, in which such deposition may occur, but at present we only know of the gouty condition that causes this. In such kidneys as the above described there is usually, as Garrod has already shown, a chronic interstitial inflammation, mostly in the cortical substance, and away from the deposits. There is no particular inclination as a rule to parenchymatous alteration of the epithelium of the tubules. Our knowledge of this affection is of no slight interest, for cicatricial nephritis is by no means rare; we know already the endocardial form, also the syphilitic form, here we have the gouty form. This form is called gouty (although as a rule gout has not been clinically indicated in such cases during life) simply from its coexistence with the uric acid deposits in the tubules.

In more advanced cases, there is more atrophy of the glomeruli and tubules, the cortex has almost disappeared, and the whole kidney is shrunken. The point first raised, whether that form of nephritis which is complicated with uric acid deposits be of gouty nature when no tophi can be found in the anriches or smaller joints, must be left for further investigation. Meanwhile, Professor Virchow presumes that there can be a gouty nephritis without "gout."

The exciting element of the nephritis cannot be the deposit; for this occurs in the medullary tubes, while the inflammation is mainly cortical. Similarly, in a joint, the crystals of the acid urate of soda occur at first within the cartilages and the ligaments, while the imflammation begins in the synovial membrane. It is evidently not the deposit, *but the uric acid still in solution in the tissues*—the *gutta*—the exudation which sets up the gout. And here we reach the question "Can there not be a gouty nephritis without urate deposits at all?"

Professor Virchow concludes by describing his own illness last year. He had never had an attack of gout, but there were two small swellings on his fingers, which were red and tender. Suddenly, extreme irritability of the bladder set in, and albumen with cylinders and pusglobules was found in the urine. The pus was abundant, and could not be explained, while the urine was scanty and was passed with great pain. One day, he examined it again with the microscope, and, on adding acetic acid, masses of crystals of uric acid appeared. He at once adopted an alkaline course of treatment, which quickly and effectually cured him. Here the irritant was the excess of uric acid, still dissolved, in the urine—the *gutta*—which caused the intense purulent catarrh.—*Brit. Med Jour.*

THE ACTION OF ARSENIC UPON DIABETES. Dr. Quinquaud, in an an article published in the *Bull. Gén. de Thérap.*, reports the results obtained from the administration of arsenic to animals in which diabetes had been experimentally produced, and also to patients suffering with mellituria. Fowler's solution was used in moderate doses. It was found that arsenic administered to diabetic patients usually produced a diminution of the daily amount of sugar excreted; but very often there is also a decrease in the quantity of water, and also a small but positive reduction in the uréa. These results occurred uniformly in the animals experimented upon; they were less so in man, possibly because the doses were relatively smaller.—*London Med. Record.*

MISCELLANY.

HOPEFULNESS IN PROGNOSIS AND PROFESSIONAL MANNER. — A REMEDIAL MEASURE.—There are few points in the practice of medicine of greater importance to our patients and to ourselves than the happy knack of giving proper expression to our opinion of a patients present condition, and of his or her prospects in the future. We take it for granted that our readers are all well up in their profession, close and accurate clinical observers, and in every way competent to practice their art with benefit to the public at large. Some, however, are much more successful men than others, though equal in professional attainments.

Why should this be the case? The answer to this question will be found in the difference in manner and the power of giving happy expression to the opinions formed in connection with the case that may be under notice. In the one instance the opinion is given with a blunt indifference to the feelings of the hearers; the symptoms warrant a gloomy outlook; all that science seems to suggest may have been done; untried remedies may have been put aside, either from want of faith in their efficacy or from an apparently well-grounded fear that they might prove hurtful rather than beneficial, and that the remedy might thus become worse than the disease; the loaded, dry tongue, brown and parched, the pinched features, glassy eye, weak, rapid, variable pulse, and the steady progress from bad to worse — all seem to give premonition of approaching death. Stimulants, internal and external, nourishment and drugs secure no response. Wanting in hopefulness of character and buoyancy, tired of the battle, the medical man loses heart, pronounces the patient's condition as beyond hope, and sometimes rashly fixes the limits within which death may be expected. In many cases, of course, the prediction is verified, and indeed, unconsciously the medical man gives a helping hand in securing a verification of his opinion, for he imparts to his hearers his own want of faith and hope, and after his departure the invalid's attendants cease from their attentions and exertions and sit down to await in patience the expected result.

On the other hand, the medical man whose nature and spirits are buoyant and hopeful, who, no matter how badly the case may look, how futile the apparent results may be from exhibition of the remedies used, still hopes, almost against hope; who, while admitting that he is but the instrument in the hands of a supreme power, still feels it his duty to persevere and leave no stone unturned to avert death, often has the satisfaction of seeing the clouds of threatening death disperse, and his patient gradually emerging from the dangerous condition into the sunshine of convalesence. "Never despair" should be the doctor's motto. How, then, ought one's opinion be given so as not, on the one hand, to allow the patient or his friends to remain in a fool's paradise, trusting implicitly that it is within the doctor's power to avert the threatened danger, or, on the other, to plunge them into the apathy of despair? In the one case, the end arriving and finding them unprepared, breaks their faith in the medical man's knowledge and foresight, and induces them to reproach him for not having warned them in time. In the other, hope being lost, the activity ceases, half-heartedness becomes a real danger to the sufferer, remedial measures are neglected, or, if still carried out, are used without spirit or faith in their efficacy, and so an extinguisher is put upon the few remaining chances of a fight for life.—"Why should we trouble or worry him?" "Let him die easy," are the ideas that find place in the minds or on the lips of those around. We have heard how one old, well known and highly respected practitioner in the midland counties was accustomed to express himself to the relatives of those among his patients whose condition seemed critical. His expression was: "We must hope for the best and prepare for the worst." The only addition we would make would be: "We must hope and *fight* for the best and be prepared for the worst." To the last the spirit of hope should not be lost. Whilst fully recognizing and explaining to those around the danger, still the numberless instances of recovery in apparently hopeless cases should be steadily borne in mind, and no means should be left untried in the effort to turn the balance.

As the practitioners experience widens out with extending years, he will have almost numberless examples to look back upon, where hope and effort may reasonably be credited with having turned the scale in favor of recovery where such a result seemed hopeless. Hopefulness cannot prove hurtful if the medical man fully recognizes the patient's danger, and makes it plain that he is fully alive to it, and does not in any sense make light of it. On the contrary, being fully sensible of it, he shows that he means to meet and fight it inch by inch, and not to yield any one point until bound to confess that he has been driven from it, only to take up a new and possibly a stronger position. Cheerful of face, sympathetic and hopeful in manner, speaking openly to the friends of the danger, and, if must be, to the patients themselves, still keeping steadily before them the fact that seemingly desperate cases have recovered before, and that the present case may prove to be one more of the number, the medical man will encourage the patients to obedience, the friends to exertion, and keep his own mind thoroughly alive to every point that may possibly prove of benefit. Forced by the failure of one remedy after another to do good, he may at last in desperation try the effects of some drug or combination of drugs, from the use of which he had previously shrunk, fearing that damage might be the result, only to find the solution of his difficulties, and the pleasant clearing-up of every unpleasant symptom. Abundant examples occur to the mind, illustrative of the soundness of the dogma, "Keep pegging away and be hopeful." If failure is the result, one loses nothing; on the contrary, one wins the gratitude and esteem of all the survivors; if success, then one's name and credit stand higher than ever, and the proud consciousness remains that we have done our duty, and that it has been abundantly rewarded by the success attained.

There is one thing that young practitioners ought carefully to avoid—*i.e.*, sudden extremes in opinion, one day making light of the complaints of their patients, under the idea that doing so will encourage them, and the next, on finding a little change for the worse, expressing grave fears for the future, and an unreasonable sense of the gravity of the case. The public are sure, under such circumstances, to draw the most unfavorable conclusions as to the medical man's skill. If really bad, they say he ought to have known it before ; if a quick recovery ensues after the serious view has been expressed, confidence is altogether shaken, and his reputation suffers all the more heavily from the natural reaction that ensues on the burthen of anxious fear being removed. In this, as in everything else, "the middle course is the safest." To secure success, and legitimate success, the medical man must cultivate a buoyant, hopeful state of mind ; he should be cautious in what he says, close in his attention to his patient, energetic in his treatment, not alone in the case of mere drugs, which may often be only very secondary means in the treatment, but in everything connected with the patients and their surroundings. He should never lose heart, but fight on to the end, and he should try, under all circumstances, to be equable in his manner and in the expression of his opinions, carefully avoiding the extremes of either hope or despair. The one maxim constantly present to his mind might be — "Obviate the tendency to death," and then leave the future to take care of itself and its results. The art of medicine has never attained to, nor is it likely ever to attain to, the exactitude of a science. Much is known of the structure of that most complex of all complex pieces of machinery, the human body, and of the functions of the various organs which administer to its existence and well-being; but we are convinced that much must ever remain a mystery, beyond even the possibility of exact knowledge, an unknown quantity that cannot be left out of our calculations, and which will often prove a disturbing element in our most careful estimate of a patient's chances of life, even under apparently the most desperate circumstances. The reaction between the effects of drugs on the one hand and individual susceptibility to these effects on the other, must ever remain matters of empiricism and uncertainty, and although we make a fair forecast, yet we can never make a certain prediction of what must be the result in a given case if we are prepared steadily and anxiously to fight the battle for life out to the bitter end, and not acknowledge that we are defeated, until certain that life has departed.

It is this element of uncertainty that cheers us on and enables us to the last to encourage a patient's friends to persevere. Hopefulness on our part is in itself a remedial measure for our patients. Daily we experience in our own lives the effect of cheerful and pleasant thoughts and surroundings as antidotes to the effects of fatigue and depression. Pleasant thoughts are in themselves a nerve tonic and stimulant of no mean order and power—a fact abundantly illustrated by common experience. This being the case in health, how much more is it likely to prove beneficial in the treatment of disease ? We are satisfied, that is often just the fillip required to rouse the patient's energies, and so to act upon the nervous system as to secure the efficacious working of the other methods of treatment that may have been adopted.

It is pleasant to hear one's patient say: "Ah, doctor, a look at you is as good as a bottle of physic"; and we are satisfied there is far more truth in the saying than is generally suspected. It is truly pleasant to feel that the looked-for visit leaves the patient with a fresh draught of hope, brighter and more cheerful, although perfectly alive to the danger he is in, because he has faith that all that can be done will be done, and because he can still be honestly led to hope that the natural powers of his body may prove the stronger in the tussle with disease. This element of "hopefulness" must never be left out of sight, but must steadily be impressed upon the minds of all, patients, friends, and, most of all, the medical man himself, as a distinct remedial measure in the treatment of disease; and those who are possessed of the largest share of it are likely to obtain the best results.

We therefore would impress upon the minds of all our readers the dogma, "Be hopeful in the treatment of disease, and, with proper restrictions, always so in the opinion you give of your patient's future." Ours the task to do the very best that lies in our power; having done so, the issues of life and death lie in the hands of a Higher Power. We are His instruments, but, having done our best, we must bow in submission to His will.—*Medical Press.*

PITY THE PHYSICIANS.—Medical men may not be very rich, but they are a busy class, and by no means unhappy. Therefore they would object to the title of an article in the New York *Sun*, "Pity the Physicians." The demand for pity is based on an interview held by a *Sun* reporter with a New York physician. The latter says: "To tell you the truth, the medical profession is poor—very poor. And doctors who talk of incomes of $20,000 or $25,000 a year simply talk for effect. I earn from $12,000 to $15,000, and think myself well off if I actually collect one-third of it. The rest I may or may not get some day—probably not; and I know that my practice is larger and my clientèle more lucrative than that of at least one pretender to $25,000 that I could name. I keep a carriage, to be sure, and a colored man with very bright buttons; but it is often that I have'nt a dollar in my pocket to pay for a cab if my own equipage should happen to break down a couple of miles away from home." "But how would the substitution of a State Board of Examiners for the present system mend the matter?" asked the reporter, to whom this lugubrious view of the situation was novel. The reply was interspersed with copious citations from a budget of statistics gathered by the friends of the movement. There is now, it seems, in ratio to population, such an excess of doctors in the United States that the best equipped graduates start with scarcely a prospect of success. Taking the whole area of the United States into calculation, the ratio is 1 doctor to every 650 persons. In this State it is 1 to 600; in this city 1 to 550. In England the ratio is 1 to 1,800; in France, 1 to 2,300; in Germany and Austria, about 1 to every 2,000. In any community, city, town, or country district the number of persons constantly sick is found to be 18 to 22 in 1,000—depending upon salubrity of situation and other conditions. It is safe to say that in this city the number, in every 550, who are regularly on the sick list, is not more than 10; and so, on the average, New York has one physician to every ten sick persons. Count out two or three of the ten as disabled by age or incurable disease, and at least one as too poor to pay, and a physician has an average of six or seven paying patients. Of course some have fifty to a hundred patients, and a great many have two, three, half a dozen, or more; but the average ratio is not altered by this inequality of distribution. The best that half a dozen patients could be depended upon to pay, on the average, would be $800 to $1,000 a year. "It is supposed," the physician added, "that with a common English education to start with, any young fellow, with a tolerable memory and $300 to spare, can enter the profession in two years, and be ready to commence practice. No preliminary collegiate degree is necessary to matriculation. A clever plow-boy, by passing no more than an actual twelvemonth in the college, can obtain his diploma; and, in many cases, all that is required of students is to matriculate, and take out and pay for two sets of lecture tickets. They may attend or not, just as they wish. It is believed, by the best friends of the movement for a higher standard of medical education, that one condition precedent to success is to take from the college diploma its *prima facie* right to practice, and to vest that right in a license granted by an independent board of examiners only after a rigid and stringent examination. The colleges have uniformly opposed this movement as detrimental to their interests; and so far, though supported by the ablest men in the profession, with few exceptions all legislation directed to that end has failed."—*N. Y. Med. Record.*

TO PREPARE CORROSIVE SUBLIMATE GAUZE.—In the New York Hospital, corrosive sublimate is used almost exclusively as an antiseptic upon gauze or jute. The sublimated gauze is prepared by immersing the bleached material in a solution as follows: corrosive sublimate, 20 parts; water, 4,480 parts; glycerine, 500 parts, for twelve hours; then wringing out, and allowing to dry, as far as the glycerine will permit. At the time of operation, a sublimate solution (1 in 1000) is allowed to trickle slowly but nearly continuously over the incision. Bleeding vessels are tied with sublimated catgut. No impervious protective is used over the dressings, as, by retaining the moisture of the dressings and the sweat, it is thought to act too much as a poultice. Metallic instruments must be immersed in a 5 per cent. carbolic solution, as the bichloride will form an amalgam with them. In the New York Hospital, not only is the part to be operated upon washed with soap and water, but also with turpentine and alcohol, two ounces to the pint.—*Brit. Medical Journal.*

INCREASE OF INSANITY IN FRANCE; ITS CAUSE. — Our French correspondent writes:—

Last week M. Legrand du Saulle inaugurated at the Salpetrière by a brilliant discourse his annual clinical lessons on the insane. The amphitheatre was filled with not only his most distinguished *confrères*, but with magistrates, barristers, and others of the laity, attracted by the subject, which could not fail to interest the public at large —"The Influence of the Political Events of the Years 1870—71 in the Increasing Number of the Insane, and especially in Children born during that Period, and who are now familiarly styled 'Children of the Siege.'" The eminent alienist commenced by saying that during the last fourteen years thirty-five thousand lunatics were examined by him at the Prefecture of Police. Of this number four thousand six hundred were found to be no more than eccentric. As to the horrors of the Commune, he said that they did not appear to affect the population to the extent that might have been supposed. Revolutions nentcnda ylo producing a certain accentuation in the delirium of those already affected or in bringing to eclosion the mental derangement a little earlier. The true cause, according to him, in this third, quarter of the century, is the thirst of enjoyment, the passion of riches, vicissitudes of fortune, the risks on the Exchange, and above all alcoholism, which from 1870 to 1884 represented 25 per cent. of the whole! Curious to relate, a diminution in the cases of mental alienation was observed in the days which followed the declaration of war in 1870. On the other hand, a large number of cases of delirium tremens were observed as the men gave themselves up in their enthusiasm to immoderate libations. But when the siege commenced, another kind of delirium was also to be observed in every street, that of inanition. This delirium was observed chiefly among women and children. Another curious fact was that during all the horrors of the siege no apparent increase in the attacks of epileptics were observed. Also, when hostilities were suspended, and the gates were opened, through which food poured in abundance, people, hitherto perishing with hunger, instead of rejoicing at the sight of bread, they seemed completely indifferent to all that was passing, for their spirit was broken. As to the "children of the siege," that is, those mothers, the alcoholisms of the fathers, the cannon in the distance, hopes and despair, defeat in the end and everywhere, it was not to be wondered at that they should present anomalies, intellectual and corporal. Out of ninety-two children born at this epoch examined by the lecturer, sixty-four were found to be deficient in physique and intellect. Of this last number thirty-five presented troubles of nutrition and malformations, and twenty-one were imbeciles. M. Legrand du Saulle concluded his interesting lecture by saying: "Before 1870 the Paris woman did not drink; since the war she has acquired that passion." Those words are only to true. Twenty years ago temperance societies would have been superfluous in France; to-day they would be very necessary. The Frenchman and the Frenchwoman are drifting rapidly down the current which must lead to their utter demoralisation and ruin. It is no uncommon sight to see men and women drunk in the streets even in the morning, and the worst of it is they indulge in absinthe, which infallibly causes softening of the brain, and in a short time too.—*The Medical Press.*

A FRENCH lady is in the courts with two bills whose coincidence in point of time is rather aggravating to her. One is of 2000 francs from a dentist for making a false uvula, to obviate a somewhat nasal tone resulting from the amputation of the natural uvula, which she had procured. The artificial organ caused such interference with appetite, digestion, and speech that medical attendance was necessary, with the result of the second bill of 4500 francs. The dentist's bill was reduced by the court to 600 francs.

THE NEW YORK CANCER HOSPITAL is reported to have received a gift of $200,000 from Mr. John Jacob Astor, together with a number of smaller sums from others. We understand that land has been bought for the purposes of the hospital in the vicinity of the Central Park, on Eighth Avenue, and that work will soon be begun on the buildings.

Bibliography.

A TREATISE ON DISEASES OF THE EYE. (¹)

This is a neat little book of 244 pages, printed in clear type, and on good paper. It is dedicated to John Green, M.D. The object of this book is to place before the general practitioner of medicine a guide by which he could recognize such cases as naturally first come under his observation. The general arrangement of this work is to be commended; it begins with the anatomy and diseases of the so-called accessory part of the eye, then takes up in regular succession diseases of the lachrymal apparatus, orbit, conjunctiva, cornea, sclerotic, iris, ciliary body, choroid, retina, optic nerve, lens, vitreous, etc. It is profusely illustrated, containing eighty-two cuts, which will enable the beginner to better understand the text. The large number of text books extant on this subject would not show a great need of this book, even to the general practitioner, since it is largely identical with the literature already published. As a book of reference for the specialist it is of no interest save as a token of respect for the author. When a text book is written for the general practitioner, on a special subject, it must necessarily be written in such a style as to be readily understood. It can safely be said that in the line of treatment this book contains nothing new, save alluding once or twice to yellow oxide of mercury, and in many instances it is even deficient.

If we refer to the chapter on diseases of the conjunctiva, especially to the treatment of purulent conjunctiva of the new-born, not a word is mentioned concerning prophylaxis, which is recognized as being so very important by all authorities. With regard to treatment, the only advice given is the use of astringents and caustics. The main factor in the treatment of this class of cases, viz.: *cleanliness*, frequent bathing with warm water or a saturated solution of boracic acid, is not alluded to, while it is an established fact that thorough cleanliness in many cases is sufficient to bring about a cure. This chapter in special should not be abridged, since these cases come under the observation of the general practitioner first, and on his advice will depend the future usefulness of the eye.

In the chapter on diseases of the cornea, phlyctenular keratitis, a form of inflammation not uncommon in children, is disposed of in eleven lines, while some cases are obstinate in the extreme to treat, and very annoying to the patient on account of the persistent photophobia.

In the last chapter, "On the Drugs Most Commonly Used in Ophthalmic Practice," there is entirely too much conciseness, and it certainly is of little benefit to the physician. At least a short history of the drug, with its properties, physiological and therapeutic action should be given. A lack of knowledge in this direction is often quite manifest, as the following question will show: "What is the cause of the loss of near vision after the use of a solution of atropine?"

This work may be an addition to such libraries as may wish to lay claim to absolute completeness, but it can scarcely be considered a needful book. C. W. T.

KING'S MANUAL OF OBSTETRICS. (²)

This is a comprehensive little work, containing a large amount of subject matter, which is condensed and well arranged. The book is nicely printed, and is well adapted to the work of students, for whom

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(1) By Adolph Arlt, M.D. First Edition.

2. A manual of Obstetrics. By A. F. A. King, M.D., Professor of Obstetrics and Diseases of Women and Children in the medical department of the Columbia University, Washington, D. C., and in the University of Vermont, etc, With fifty-nine illustrations. Second Edition. Philadelphia: Henry C. Lea's Sons & Co., 1884. Cincinnati: Robert Clarke & Co, Price $2.00.

it was designed. The author has given attention to many details of treatment and manipulations that will make the work of value for reference, while the great number of illustrations add materially to the clearness and rapidity with which its lessons may be grasped.

The volume is 12mo., and contains 321 pages. C. W. S.

In Memoriam.

PROFESSOR WILLARD PARKER.

The fear expressed in our last issue was speedily shown to be well founded; before the journal had reached the great majority of its readers, Dr. Parker's death had occurred. It took place on Friday afternoon of last week, the 25th inst.

The funeral took place on Monday, the 28th inst., and was very largely attended by the profession of New York, as well as by a great number of friends of the family. The interment was at New Canaan, Conn., in which town Dr. Parker had spent many of his summers for a number of years past.

Willard Parker, M.D., LL.D., was born in Hillsborough, in the State of New Hampshire, September 2, 1800, being descended from one of the English families that took part in the settlement of the town of Chelmsford, Mass. When he was five years old, his parents removed to Chelmsford, where he obtained the rudiments of his education, and where, when ninteen years old he himself took charge of a district school, by which means he prepared himself, both mentally and financially, for the academic course at Harvard University, from which he was graduated in 1826. It is said that, during his freshman year in college, he was led to give much thought to the art of surgery by having had occasion to admire the skill with which Dr. John C. Warren, at that time the professor of surgery in the Harvard Medical School, diagnosticated and reduced a strangulated hernia in the person of one of his classmates.

Having entered upon the study of medicine, he spent two years as house physician to the United States Marine Hospital at Chelsea, Mass., and afterward became a private pupil of Dr. Warren's and an assistant in the anatomical department of the medical school. In 1829 he was appointed a house pupil at the Massachusetts General Hospital, and the next year he received the degree of doctor in medicine from the Harvard Medical School. He began his career as a teacher at once, lecturing first on anatomy in the medical school at Woodstock, Vt., at that time an important institution. He was then appointed professor of anatomy, and subsequently of surgery, in the Berkshire Medical College, at Pittfield, Mass. In 1836 he went to Cincinnati, having accepted the chair of surgery in the Cincinnati Medical College. There he was closely associated with Dr. Samuel D. Gross, now of Philadelphia. He left his work in Cincinnati to continue his studies in Europe, and, on this return to this country, it was his intention to resume practice and teaching in Cincinnati, but the state of his health was such as to determine him to settle in New York.

In 1839 he was appointed professor of surgery in the College of Physicians and Surgeons, a position which he held until 1870, when he was made professor emeritus. When the old almshouse was converted into Bellevue Hospital, in 1845, he was made one of the surgeons to the hospital, and in 1856 he received a like appointment at the New York Hospital. In these two hospitals, and as a clinical teacher at the College of Physicians and Surgeons, the great work of his life was performed, although at various times he was connected with a number of other hospitals, and was a member of all the chief medical societies of the city. When the Metropolitan Board of Health was created, in 1866, Dr. Parker was appointed one of the commissioners, the others being Dr. Stephen Smith, the late Dr. John O. Stone, and Mr. Jackson H. Shultz.

Dr. Parker was a general practitioner, and to the last he doubted the propriety of specialties, but his excellence as a surgeon led to a decided preponderance of surgery in his practice, and for a long term of years he was the leading surgeon of New York. Although he had a wonderful knowledge of anatomy and of the principles of surgery, he was not what is generally understood as a "well-read man." He rarely quoted authors, but he was seldom at a loss to bring his own immense experience to bear upon any rare case that chanced to come up in practice. He was not bound by empiricism, however, but always sought to correlate the facts which he observed, displaying an originality and an ingenuity that never failed to impress those with whom he came in contact. He was exceedingly exact as a diagnostician, but his methods of diagnosis were not those of the books, and, whenever his conclusions were questioned, he was apt to support them with arguments that few other men would have thought of, but that carried with them irresistible weight. His strong point as a practitioner was his unerring appreciation of the leading feature in cases where others were apt to be confused by minor details. In addition, he always recognized that his function was to treat the patient rather than the disease.

As an operative surgeon, Dr. Parker was appreciated aright only by the few who had seen him operate a great many times, for in ordinary operations he displayed none of the dash, precision, and neatness that were to be found in many of his inferiors; his stumps were not apt to look "nice," for instance. But in rare operations his *technique* was fautless and his precise knowlege of anatomy conspicuous. It is related of him that, while yet a young man, in Cincinnati, he was one day doing an operation that called for unusual care and skill, when an ill-natured bystander called attention in a whisper to the fact that his hand trembled, whereupon the late Dr. Mussey remarked that he wished his own hand would "tremble in the same way." The glamour of an operation never seemed to have the slightest charm for Dr. Parker; he regarded the procedure only as an incident in a defined plan of managing disease or injury, and he never lost an opportunity to impress upon young practitioners the relative unimportance of operative work. To the intensity of his convictions in this regard it is no doubt due that he was not a seeker after novel methods, so that his treatment of vesical troubles by cystotomy and his operation for perityphlitis are almost his only noteworthy achievements in this direction.

As a teacher, Dr. Parker was distingushed for his earnestness and for the aptness of his illustrations. In his lectures he taught principles, paying little attention to matters of detail. His contributions to the literature of medicine were few. Early in his career he edited an American reprint of Cooper's "Surgery." His notes to the edition were very brief, but they were all to the point. His temperament fitted him for oral teaching, but he entertained something of contempt for those he termed "book-makers." His last contribution to medical literature, a short article on "Carbolic Acid in the Treatment of Wounds," was published in this journal for January 6, 1883. Dr. Parker always bore his full part in what he conceived to be the duty of the profession as teachers of the community, and on many occasions he gave public lectures, generally on subjects connected with hygiene.

As a man, Willard Parker was undeniably great. He was a typical democrat, impatient of all sorts of pretense and without a particle of diplomacy in his make-up. The kindness of his manner was the direct reflection of his heart, as far removed as possible from courtliness or suavity, but aglow with genuine good feeling. His bluntness and his devotion to truth sometimes led him into hasty criticism of his fellows, but the pain he thus gave was always a source of unfeigned regret to him and he never failed to make all possible amends. He supported his friends with a strong hand, and it is not too much to say of him that he was "the making" of many of his young professional brethren. In his personal appearance Dr. Parker was a remarkably handsome man, and a man of great physical vigor and activity. These attributes, together with his joyous temperament, enabled him to inspire the patients with hope and courage; it was often said of him, indeed, that he could "put a smile on a dead man's face." Dr. Parker was a man of deep religious convictions, and his morality was spotless. His personal habits were exceptionally regular and correct. With all this, his ardent and hearty temperament made him dear to his family and his intimate friends, and attractive to all who came in contact with him. By his death both the profession of medicine and the community lose a strong man and a good man.—*N. Y. Med. Jour.*

DR. SAMUEL D. GROSS.

Died May 6, at his residence in Philadelphia, Samuel D. Gross, M.D., LL.D., D. C. L., Oxon., L. L. D., Cantab.

As the printers conclude setting the Obituary of the eminent Surgeon Dr. Willard Parker, we are called to record the demise of Dr. S. D. Gross. A man known to all the civilized world as one of the greatest Surgeons who ever lived. Whose name and deeds will be known and recorded through all time.

Language fails us in attempting anything like a fitting record of this great man whom all the world delighted to honor. In the heart of every one who had a personal acquaintance with Dr. Gross will ever be found indellibly engraven his image and remarkable personal characteristics.

Born near Easton Pa., July 8, 1805, he received a classical education at the Wilkesbarre Academy and the high school at Lawrenceville N. J., he studied medicine with Dr. Jos. K. Swift, at Easton; subsequently he was for nearly two years a private Student under Prof. Geo. McClellan.

He graduated from the Jefferson Medical College in 1828, and began practice in Philadelphia, employing his leisure hours in close study, and in translating several standard French and German Medical works, which were published. In 1830 he issued his first original work, "Diseases and Injuries of the Bones and Joints" in which particular mention is made of the use of adhesive plaster as a means of extension in the treatment of fractures now so generally employed by surgeons of this and other countries. During the same year he returned to Easton. In 1833 he became Demonstrator of Anatomy in the Medical College of Ohio, and two years later Professor of Pathological Anatomy in the medical department of the Cincinnati Medical College.

This was the first chair of Pathological Anatomy ever created in any Medical College and Dr. Gross was the first man to fill the chair. Prof. Virchow of Berlin in introducing Prof. Gross to his class some years ago alluded to this fact and presented their guest as the Father of Pathological Anatomy. While occupying the chair and delivering a systematic course of lectures on Morbid Anatomy he wrote his "Elements of Pathological Anatomy." The first methodical treatise on the subject ever published. After four years he accepted the chair of Surgery in the University of Louisville. Remaining there ten years, in 1850 he resigned to accept a similar professorship in the University of New York, just vacant by the retirement of the venerable Dr. Mott. At the end of the first session he withdrew, and at the earnest solicition of his former colleagues returned to his Louisville Chair. In 1856 he was elected Professor of Surgery in the Jefferson Medical College, Philadelphia, which he occupied until two years ago. Dr. Gross was a most voluminous author. The clerical work of his writings alone is immense.

His System of Surgery which first appeared in 1859 has passed through the sixth edition, with which our readers are familiar. He also edited a work on "Americian Medical Biography", was one of the founders and editors of the *North American Medico-Chirurgical Review*, he is also the author of very many addresses and a number of mongraphs.

He was a member of a large number of scientific and medical societies, and was frequently elected their president. While in Louisville he published an elaborate and exhaustive "Report on Kentucky Surgery." In which he first established the fact that the late Dr. Ephraim McDowell, of Danville in that State, was justly entitled to the honor of being the father of Ovariotomy, until then erroneously ascribed to other surgeons. In 1867, he was elected President of the American Medical Association.

In 1872, during his second visit to Europe the University of Oxford, at its one thousandth commemoration, conferred on him the honorary degree of D. C. L. That of L. L. D., he had previously received from Jefferson College, Pa., and later the degree of L. L. D., was conferred on him by Cambridge University England. He was unaminously elected president of the International Medical Congress which met in Philadelphia in September 1876. Full of honors and full of years, a blessing to his race, he left the world, the better for his having been in it.

DR. JOHN M. CUYLER, OF THE ARMY.—Surgeon and Brevet Brigadier-General Cuyler died at his home, in Morristown, N. J., on Saturday, April 26th. He entered the army as an assisant surgeon in 1834. He served with honor and distinction during the late civil war, and received several brevets. At the time of his death he was on the retired list.—*N. Y. Med. Jour.*

The LANCET & CLINIC and OBSTETRIC GAZETTE to one address one year for $5.00.

Original Articles.

HIPPOCRATES.

By W. R. Amick, M.D., Cincinnati, O.

While the science of medicine is making rapid strides toward the unraveling of the tangled problems of aetiology, and explaining the mysteries of contagion and infection, it will do no harm to turn back the leaves of this great book and take a little retrospect of some of the ancient physicians.

When we read the records given of the causes and treatment of diseases, as it was taught and practiced centuries ago, we are liable to forget the disadvantages under which they labored, and are inclined to think that there was no excuse for such ignorance.

Even in this day of intellectual superiority, with the advantages of more light thrown upon chaos, we have no right to condemn the design, and should be chary of our criticism.

When time has marked off as many years for the future of the present as it has since the days of those to whom we refer, it may be that the physicians of those days will have entirely lost sight of our "originators of medicine," and refer to the present generation as the *aborigines medici* and the old fogies and ignoramuses.

But we do not intend to take up the retrospect with the intention of trying to build up the present by tearing down the past, but simply to obtain some knowledge of the science as it existed at that time, especially the prognostications.

As it would be an impossibility to give even a synopsis of the ancient method of practicing the healing art in a short article like this, we will confine our remarks to Hippocrates. We will refer to them liberally, as they are given by Clifton, using his translation, which, for the most part, is not very smooth. We will first give a short biographical sketch, and then refer to some of his aphorisms.

Before doing so we wish to refer to the method of computing time by Olympiads, which took place after the death of Alexander, and continued for about fourteen and one-half centuries. This method of reckoning time had its origin in the Olympic Games, which were celebrated at intervals of four years, The Christian Era wa supposed to have commenced in the Olympic year 1016, or in the 254th Olympiad.

Hippocrates was by birth a Coan, the son of Heraclides and Phænarates, descended from Hercules and Æsculapius, the twentieth from the one and the nineteenth from the other. His genealogy is mentioned by Eratœthenes, Pherecydes, Apollodorus, and Arius of Taurus.

First he was a pupil of his own father, Heraclides, then of Herodicus, and, according to some, of Gorgias of Leontinum, the orator, and of Democritus of Abdera, the philosopher. He flourished during the time of the Peloponesian war. His birth was, according to Istomachus, in the first year of the eightieth Olympiad, and according to Soranus of Cos, upon the twenty-seventh day of the month Agrianus, a day that Soranus tells us is set apart even to this time, in honor of Hippocrates.

After being instructed in physic, and all the liberal arts, upon the death of his parents he left his own country—for burning the library in Cnidus; if we may believe a malicious writer, Andreas—or, as others say, with a design to see what was transpiring abroad, and to exercise himself with greater variety. But Soranus of Cos says it was the result of a dream in which he was commanded to settle in Thessaly.

He practiced in all parts of Greece, and was so much admired for his skill as to be sent for to consult with Eurypbon, physician to Perdiceas, king of Macedonia. Eurypbon thought that the king was consumptive, but Hippocrates discovered that it was a disease of the mind. Upon the death of the king's father, Alexander, Perdiceas fell in love with Philas, his father's mistress. Hippocrates easily discovered this by the change her presence wrought upon him; acquainted her with the fact, and *presto veto*, the disease was dispelled and the king recovered.

He taught his profession with great candor and liberality to those who wished to study it. He died among the Laripæans, about the time of the death of Democritus, some say in his ninetieth year, others in his eighty-fifth, while others still say in his 109th year. He was buried between Gyrton and Laripa, where his monument is shown to this day. A swarm of bees took up their abode in the monument, and filled some of the crevices with honey. When the children were troubled with aphtha, it is reported that their nurses would carry them to the grave, and while there anoint them with honey, and the disease would rapidly disappear.

Many famous and wonderful predictions are related of physicians, such as I myself have never made, nor heard of any other that has, some of which are of this kind: A man who seems to the physician who has care of him, and to those about him to be in a desperate condition, shall be told by another physician coming in upon him that he shall not die, but *lose his sight*. Another, that seems to be as bad as bad can be, shall be likewise told that he will recover indeed, but be *lame in his hand*. A third, who, to appearances can not possibly recover, shall be told that he shall get well again, but his *toes will turn black and petrify*.

Another kind of predictions, by which buyers and traders are affected, portends death to one, madness to another, and other diseases to the rest.

As to those who are subject to the piles, if a man sees them drinking much, or with a florid complexion in the winter, a prediction may be made concerning them. There is great reason to expect such a hemorrhage in the spring as will be followed in the summer by a want of color and a dropsical disorder.

He who desires to excel in these exercises ought to make himself master of all these things, and then predict. For, from what is already written, death, madness and a good habit of the body may be predicted.

If a man has made himself master of this art of predicting, a patient of understanding will admire him greatly. But if he falls into mistakes he will not only fall into odium, but will soon be suspected of having his head turned. Upon this consideration, prudence in prediction, and in every thing else, is what I recommend to others, although I both hear and see a kind of men that neither form a right judgment nor relate correctly what is said and done in physic.

I look upon it as a great part of the art to be able to consider thoroughly what is written judiciously, for he that knows and makes use of these things can not, in my opinion, commit any great mistakes in practice. He ought also to be a perfect master of every constitution or temper of the seasons and of disease, to know which disease is good and which dangerous, and whether from the season or the disease itself, which is long and fatal, which long and salutary. From these the course of the critical days is to be considered and the prediction formed.

The greatest sign in those who are to recover from their illness is, if a burning fever (and the same holds true of other diseases) is not contrary to the nature of such fevers, for nothing terrible or fatal happens in the natural way. Second, if the season of the year does not oppose the distemper, for in general the nature of the patient does not get better of the power of the whole. Third, if the parts about the face are slender, the vessels in the temples, the corners of the eyes and eyelids are quiet after having been in agitation. In this case if the voice be weaker and smoother, the breath seldomer and thinner, a remission may be expected next day. These things ought to be considered with respect to the crisis.

Again, if the tongue be daubed on each side with something like white spittle, or if the same is at the tip, it is also to be expected but less, if the daubing is but little, a remission is to be expected on the third day.

Again, the whites of the eyes are generally turned black at the beginning of the illness if the disease is vehment. Clearness in this part signifies perfect recovery, the fainter it is the longer the time will be, the stronger it is the sooner.

We are likewise to consider the temper of the seasons and what sort of weather happens in particular seasons and countries, and with respect to the crisis, which appears from day to day, sooner or later in the third or fourth period.

At the beginning of a disease the paroxysm must be considered, and that in every disease, as they are most apt to come in the evening. So the year has its evening viz.: autumn), and the worms called *ascarides* are then more frequent.

The predictions of acute cases were not always certain as to life or death. Acute cases generally come to a crisis in fourteen days. The crisis happens in fevers the fourth, the seventh, the eleventh, the fourteenth, the seventeenth, and the twenty-first days. It happens also in the same acute disorder on the thirtieth, the fortieth and the sixtieth days.

The fourth day is the index of the seventh, or the first week, the eighth, the beginning of the second week, the eleventh is also regarded as being the fourth of the other week, and the seventeenth as being the fourth from the fourteenth and the seventh from the eleventh.

The crisis of a fever happens upon the very same day upon which the patient either recovers or dies. The best conditioned fevers, attended with the securest signs, cease the fourth or sooner. But the worst conditioned destroy the fourth or sooner. This, then, is the termination of the first course or period. The second extends to the seventh, the third to the eleventh, the fourth to the fourteenth, the fifth to the seventeenth, and the sixth to the twentieth.

These are the terminations of the acute cases, by the addition of fours, but none of them can be counted exactly by whole days.

As to those who are to come to a crisis in a very short time, it is more easy to arrive at a conclusion, by judging of the symptoms at the beginning. Those who are to survive breathe well, are free from pain, sleep of nights, and have other signs of the securest kind, whereas those who are not to survive breathe hard, become delirious, keep awake, and have other signs of the worst kind.

Where a crisis happens, the night before the paroxysm is unsteady, but the succeeding one easier, for the most part. Deep sleep, without disturbance, denotes a perfect crisis, but disturbed sleep, with pains in the body the contrary. All diseases go off either by the mouth, or by stool, or by urine, or by some other way, as the joints, for instance, or by sweat, which is common to all.

Acute diseases go off either by bleeding at the nose at the time of the crisis, or by profuse sweat, or by purulent and mucilaginous urine, in great quantity, and with a good sediment, or by a considerable abscess, or by mucous and bloody stools, coming away suddenly, or by well conditioned vomiting about the same time.

The seventh, ninth or fourteenth day fevers commonly disappear by a hemorrhage from the nose, or by bilious and bloody stools, or by a pain in the knees or hips.

In the beginning of a fever, drops of blood from the nose upon sneezing, and a white sediment of the urine on the fourth denotes a crisis upon the seventh day.

Perspiration in fevers upon the third, fifth, seventh, ninth, eleventh, fourteenth, twenty-first and thirtieth days, bring it to a crisis, but those that happen upon other days denote pain.

If there is a pain in the head, and a fever follows without the pain disappearing, no crisis will happen in that fever until the pain actually ceases.

If a fever does not remit upon unequal days, it is apt to return.

Black bile coming away, upward or downward, at the beginning of a fever is fatal. Whenever black bile, or, as it were, black blood, comes away in acute or chronic cases, or upon wounds, or wastings of any other kind, death follows the next day.

Those who have a thickness of hearing, a trembling on taking hold of things, a palsy of the tongue, and a stupidness and numbness are in a bad way.

Those diseases that begin with a pain in the back are difficult and troublesome.

No dependence is to be placed in those complaints which get better without reason, nor are we to be much afraid of those that grow worse without reason, for such changes are generally unstable and of short duration.

Complaints of a mortal kind, growing easier without any sign or reason, imply death.

If an ulcer happens to be upon a man before, or if it makes its appearance during the disease, it ought to be attended to carefully, for if the patient is to die it will either turn livid and dry or pale and dry before death.

Signs of death are a warm vapor passing through the pores of the skin, after the nose has first transmitted cold breath. Signs of life are the reverse.

A jaundice coming upon a bilous fever before the seventh day, with a shivering, carries the fever off, but if it comes without a shivering, and out of season, it is fatal. A jaundice coming upon a fever the seventh day, the ninth or the fourteenth, is good, if the right hypochondre is not hard, otherwise it is bad.

The body in a fever, none of the mildest, remaining the same, and not falling away at all, or falling away more than in reason it should, is bad. The first implies a long illness, the second, weakness.

The body not gathering strength when the patient eats well after an illness, is likewise bad. In general all that are in a bad way have a good appetite in the beginning, but yet gain no ground, and toward the conclusion fall off, whereas those who have a strong aversion to food at first, and afterwards come to it very well, are in a better way.

In acute diseases the countenance of the patient is first to be considered, whether it be like that of a man in health, and particularly his own natural countenance, for thus it would be best of all, as that which is farthest from this is the worst. The signs of the worst are as follows:

The Hippocratic Face.

A sharp nose, hollow eyes, fallen temples, cold, contracted ears, with the lobes inverted, the skin about the forehead hard, stretched and dry, the color of the whole face pale, or black and livid, or like dead.

[TO BE CONTINUED.]

Society Reports.

AMERICAN MEDICAL ASSOCIATION

THIRTY-FIFTH ANNUAL SESSION.

Washington, D.C., May 6, 7, 8 and 9, '84.

[Specially reported for the LANCET AND CLINIC.]

THIRD DAY—THURSDAY, MAY 8, 1884.

General Section.

The Assocation convened at 10 o'clock and was opened with prayer by the Rev. William Paret.

Miscellaneous Business.

Dr. Keller, of Arkansas, asked that a mistake be corrected in regard to the action of the Association as to the date of meetings. He stated that a resolution was offered some years ago which left to the option of the Association at each meeting, the date of the next meeting, instead of the former requirement that it should be in the months of April or May. This motion had been laid on the table for two years, but last year, at Cleveland, it was called up and passed. The secretary, he said, had given it as his opinion that the old bylaw was still in force.

The committee appointed at the last meeting to ask for legislative action to provide a fireproof building for the protection of the Army and Navy Library and Museum and for an appropriation of ten thousand dollars a year for its support announced that they had made the petition to Congress, but that as yet no action had been taken.

Dr. G. M. Sternberg, of the U. S. Army, moved that

"We earnestly petition Congress to make suitable appropriations for the prosecution of scientific researches relating to the

Causes and Prevention of Infectious Diseases of the Human Race,

to be expended under the direction of the National Board of Health, and that a permanent detail of one medical officer of the Army and one of the Navy be authorized for the prosecution of researches of this nature.

"*Resolved,* That a committee of five be appointed to present copies of this resolution to the Speaker of the House, to the President of the Senate, and to the Chairman of the Committee on Public Health of the House and of the Senate." Adopted.

Drs. G. M. Sternberg, I. Minis Hays, A. H. Gihon, J. C. Reeve, and John C. Dalton were appointed on the committee.

Dr. Kellar asked attention to a resolution on "Cremation," offered by him at Cleveland and there referred to a special committee. He stated that he did not want special action taken upon it at this meeting, but that he wished it kept before the Association.

The committee appointed to consider the question of invitation of the International Medical Congress to this country in 1887, reported that after some inquiry among the members they had found an almost universal sentiment in favor of such action. They therefore asked that a committee of seven be appointed to present the invitation at the next meeting, the committee also to have the privilege of increasing its numbers, of appointing subcommittees as might become necessary, and of drawing on the treasurer of the Association for a sum not to exceed $500 to defray preliminary expenses. They further suggested the city of Washington as a suitable place of meeting.

Dr. J. M. Toner presented the

Report of the Board of Trustees of the Association Journal.

The contract for publication had been given to Newell & Co., of Chicago, and by a fortunate coincidence the editor chosen resided in the same city. The *Journal* had been commenced, and although like all new undertakings it had been somewhat trammelled by lack of funds, its good effect had been largely felt in stimulating members of the Association to pay their dues, and in largely increasing the income of the Association. He further believed that the present year would end with a surplus in the treasury. He then called upon Dr. N. S. Davis, the editor, to make his report.

Dr. Davis then narrated briefly the prelimary arrangements for publication, the difficulties encountered in transforming an ordinary publishing house into an office suitable for the publication of a medical journal, and stated that on account of these unavoidable delays the *Journal* was late in appearing, and was a little late in its issue during the first three months. In accordance with the estimates made last year, 3500 copies were printed at each issue, but before the fourth issue the number was increased to 3800, and had been continued at that rate until the present time. The total weekly circulation is 3436, of which 2117 go to members. It is thus seen that the circulation has considerably exceeded the estimate made.. Immediately after the meeting of the Association in Cleveland, circulars were sent to all the medical schools of the country, large drug manufacturing houses, and medical book publishers. In reply, a large number of advertisements was received, but many of them were of such character as to be precluded by the rule adopted by the Board of Trustees. Notwithstanding the restriction alluded to, quite a number of page advertisements were accepted. The income from this source for the first three-quarters of the year was about $1000; and at the end of the fourth quarter it should reach over $1200.

For the first nine months the total income was $10,345. This might be somewhat reduced by losses and the failure of some to pay their bills. On account of the fact that certain subscribers paid but four dollars each, the other dollar being paid to the person (book dealers, etc.) securing the subscription, there might be an apparent discrepancy in the figures between the number of subscribers and the amount received therefrom. If all advertisements be paid for, the total receipts would be $18,547.50; the total amount drawn from the Treasurer of the Association for publication purposes was $8,171.26; that would make annual expenses $10,891.25, leaving a balance in the treasury of $1,650.25, as the result of the first years publication. Deducting from this the necessary expenses of the present meeting and there will be left a balance in the treasury of of about $500. As a result of the publication of the *Journal*, the number of members paying their dues had been fully doubled. He further stated that on account of the fewer number of journals west of the Alleghenies, the larger number of subscribers came from that quarter.

Dr. Toner, in resuming his report, stated that, in the opinion of the Trustees, the report of the editor showed the *Journal* to be in a satisfactory condition; it had been conducted with economy, ability and judgment; the best interests of the Association had been kept in view, and its dignity maintained with rare discretion. It is believed that the experience gained during the past year, will enable the editor to do better work in the future. They further believed that if all the available funds of the Association were expended in the interests of the *Journal*, a much more acceptable periodical would be the result. He then stated that Dr. Davis had, in the early part of the present year, presented his resignation of the editorship, but that after earnest solicitation on the part of the Trustees, he had withdrawn his resignation. He had, however, informed them that while he would do the best he could for the *Journal* during the coming year, at the end of that period he would absolutely resign. Bids had been received for the publication of the *Journal* for the coming year from various firms, but the bid of the present publishers had been considered most suitable, and the publication had again been given to them.

Dr. J. H. Packard then presented a minority report, stating that in so doing he was actuated only by motives for the good of the Association. Although he did not wish to reflect upon the other Trustees, he did not think the report just read had presented the condition of the Journal in an entirely impartial light. From the majority report of the Trustees it would appear that the expenses of the publication of the Journal had been met. He had, however, at the beginning of this year, received an official letter from the President of the Board in which he stated that the editor had not drawn his salary, and would abstain from so doing for some time. If, then, the salary was still to be deducted from the earnings of the Journal, the balance would be entirely different. But he objected to the report on other grounds. In his opinion the

Journal had not approached anywhere near the standard to which the organ of the Association should attain. The defects of the Journal are not those of a new enterprise, and are not decreasing.

The object of the Journal was not merely to journalize the transactions, or to spread out the minutes of the Association or papers read. The object is to make a strong, wide-awake, high-toned periodical, well equipped in every respect, to be a medium of communication between members all over the country. A thoroughly trained corps of editors is requisite; access must be had to large libraries, and where there is opportunity to secure auxiliary work such contributions should be liberally paid for. Facilities for mechanical execution are essential to success. None of these requirements seem to have been possessed. Respect for the interests of the Association compelled him to state this as his sincere and deliberate judgment. The report concluded by recommending that the resignation of Dr. Davis be accepted, and that the office of publication be removed to an eastern city, as Washington, New York or Philadelphia.

A motion was made to lay the minority report on the table. The chair being unable to decide the vote, the roll was called and the motion carried, 191 yeas to 74 nays. The majority report was then adopted.

The Nominating Committee presented the following list of officers for the ensuing year.

President—H. F. Campbell, of Georgia.

Vice-Presidents—J. S. Lynch, of Maryland; D. Mercer, of Nebraska; J. W. Parsons, of New Hampshire; H. C. Ghent, of Texas.

Time and place of next meeting.—New Orleans, on the last Tuesday in April 1885.

Judicial council, to fill vacancy, 1886.—J. K. Bartlett, of Wis.

To fill vacancies caused by expiration of term of service.—J. H. Murphy, of Minn.; S. M. Toner, of Washington; W. Brodie, of Mich.; H. D. Holton, of Vt.; A. B. Sloan, of Mo.; W. B. Ulrich, of Pa; W. M. Beach, of Ohio.

Officers of Sections.

Practice of Medicine—H. D. Didama, of New York, chairman; G. M. Garland, of Mass., sec'y.

Obstetrics.—R. S. Sutton, of Pa., chairman; J. T. Elks, of Ark., sec'y.

Surgery.—Duncan Eve, of Tenn., chairman; E. Smith, of Mich., sec'y.

Ophthalmology.—Joseph White, of Va., chairman; S. S. Adams, of District of Columbia, sec'y.

State Medicine.—E. W. Schaeffer, chairman; J. M. McCormick, of Kentucky, secretary.

Oral and Dental Surgery.—A. W. Harlan, of Illinois, chairman; J. E. Mears, of Pa., sec'y.

Trustees of Journal.—H. F. Campbell, of Ga.,; J. H. Packard, of Pa.; L. Connor, of Mich.

Necrology.—J. M. Toner, of Ditsrict of Columbia, chairman.

The hour for adjournment having arrived, a motion was carried to refer the paper of Dr. C. Parkes, chairman of the section on surgery and anatomy, to that section, and to postpone the address of the chairman of the section on State Medicine until Thursday morning at nine o'clock.

FOURTH DAY—FRIDAY, MAY 9, 1884.

General Session.

The Association was called to order at 9:30 by the President.

First in order was

Unfinished Business.

Dr. Dalton, of New York, on behalf of Dr. Tyson, chairman of the committee on experimental medicine, reported a resolution providing that the committee should be permitted to add to its strength and efficiency by appointing at its own pleasure such additional members as it was deemed best. It was also resolved that the attempts that have been made or shall be made to restrict by legislation the experiments on animals made in the interests of experimental medicine are only calculated to do harm, and that the medical profession alone are competent to judge of the usefulness of such experiments.

The committee appointed to nominate persons to fill vacancies on the board of trustees reported that they had selected the same gentlemen as had been reported the day previous by the committe on nominations. But, as they believed the action of that committee was improper and a violation of the by-laws of the Association, they asked that it should not be allowed to go on record.

A motion was made to provide for the appointment of this committee in the future by the committee on nominations, and to do away with the necessity of a special committee.

Dr. N. S. Davis, of Chicago, explained that it had been provided by the action of a special committee, of which Dr. Packard was chairman, and which reported at the meeting in St. Paul, that these nominations should be made by a special committee of five, to be nominated by the Chair.

A resolution was then adopted to dispense with the special nominating committee for the future, the trustees to be nominated by the regular committee on nominations.

The President, Dr. Austin Flint, Sr., as chairman of the committee appointed to take action on the death of Dr. S. D. Gross, reported that on account of the absence of some of the gentlemen appointed it had been impossible to call a meeting of the committee, and he would therefore ask that the committee be continued.

Dr. N. S. Davis, chairman of the committee appointed to take action on certain questions and suggestions in the annual address of the President, stated that the committee had been appointed at such a late hour that a number of those named were not aware of their appointment, and that for that reason it had been impossible to have a full meeting of the committee. He further stated that in the opinion of those of the committee who were present it was not advisable to take any action or to make any declaration with reference to the code of ethics, as any declaration of that nature should be made only after due deliberation.

He then offered a resolution that as persistent misrepresentations have been and are being made in regard to the code of ethics of the American Medical Association, a committee should be appointed, of which the President should be a member, to draft resolutions explanatory of the sense of the Association in regard to the code, said committee to report to the Association at its next meeting.

Dr. Garcelon stated that as no member for the State of Maine had been appointed on the committee on Necrology, he would move the election of Dr. Seth Gordon. Carried.

The address of the chairman of the Section on State Medicine, Dr. Deering J. Roberts, of Tennessee, was now called for.

Dr. Roberts, instead of beginning his address promptly on taking his place on the platform, attempted to dispose of a pocketful of resolutions relating to various topics, but was promptly called to order.

His address reviewed the history and the attainments of the section, which he presented from its infancy to the present. He pointed with pride to his worthy predecessors in the chair of the section.

One very important disclosure was the statement that the germ theory of disease had been discovered by two physicians of his own State, Tennessee, who discovered the bacillus of cholera thirty years in advance of Koch and his expedition. He next lauded the powers of sanitary regulations in their checking the advance of cholera and yellow fever during the past year. The speaker could see no more necessity for the legislative regulation of the practice of medicine than the eminent Daniel Drake saw for it in his time. He believed that the practice was far more efficient in the free land of Tennessee than in those states where it was cared for by the legislative bodies. All the great discoveries, as of the circulation of the blood, vaccination, etc., were made without legislative interference.

Regret was expressed that there should have arisen a conflict between the National Board of Health and the Marine Hospital Service.

The speaker then recommended that Congress should appoint a Department of Health, the chief of which should be a member of the President's cabinet, with rank and compensation the same as the other cabinet officers, his duty being to oversee all sanitary arrangements in the Department, and report to the President all progress, as well as to suggest any improvement he deemed expedient.

The President then announced as the committee on invitation to the International Medical Congress, to meet in America in 1887, Drs. Austin Flint, J. Minis Hays, L. A. Sayre, C. Johnson, G. T. Engleman, J. S. Brown and J. S. Billings. He further stated that in the original motion for the appointment of the committee it was provided that the committee should have the power of increasing their membership as they found necessary, and added that the committee would be expected to attend the meeting of the Congress at Copenhagen in August next.

Dr. Packard, of Philadelphia, asked that the amendments he had offered at the meeting at St. Paul, two years ago, be now taken up and considered. He then read the resolution, which provided for the election of members by application. "Membership shall be acquired by any one received as a delegate or by application by any physician in good standing with a state or county medical society, said application being accompanied by a certificate from the chairman and secretary of his society, testifying to the good and regular standing of the applicant. It further provided that members by application should retain their membership so long as they pay their annual dues to the Association.

Dr. Packard strongly urged the passage of the amendment, on the ground that it would undoubtedly increase the revenue of the Association, and thus enable it to improve the condition of the *Journal*.

After a spirited discussion of the technical question involved in the passage of an amendment two years after its presentation instead of one, it was finally decided constitutional, and the amendment adopted.

Dr. Von Klein, of Dayton, O., offered a resolution providing for the exclusion from future meetings of the Association of all physicians who have graduated from medical colleges that do not require a thorough preliminary edueation. Laid on the table.

Dr. Foster Pratt offered an amendment providing that hereafter each section shall elect its own chairman and secretary, thus taking that duty from the nominating committee.

The resolution was received with applause.

Dr. Keller, of Arkansas, asked that his cremation resolution, a pet of some years' standing, be referred to the section on State Medicine.

A resolution was next adopted for the improvement in the method of registration, the need of which was referred to in the last issue of the LANCET AND CLINIC. It provides that the committee of arrangements should receive registration dues and issue cards of membership by mail previous to the time of meeting.

Dr. J. Roberts offered a resolution petitioning Congress to provide a permanent home and an adequate fund for the support of the Museum of Hygiene. Laid on the table.

A resolution was then adopted stating that it was the sense of the Association that it is not expedient for the Nominating Committee to nominate its own members to the offices of the Association.

A resolution was offered by Dr. Pratt petitioning Congress to provide legislation that should effectually exclude the immigration of the so-called infective classes from all countries.

A motion was now carried that the papers on the programme be read by title in order to leave time for other important business.

The first of these papers was that of Dr. J. F. Chisholm, of Baltimore, chairman of the secton on ophthalmology, otology and laryngology. He stated that instead of taking as his subject the advances made in the specialties of his section, he had chosen to treat of the importance of a more general diffusion of the knowledge now too much abandoned to specialists in the treatment of diseases of the eye, ear, throat, etc.

The paper of Dr. Wm. Lee, of Baltimore, chairman of the section of diseases of children, was confined to the advances during the last year in the study of the infectious diseases of children.

The chairman of the section on oral and dental surgery, Dr. T. W. Brophy, of Chicago, had prepared a paper setting forth the importance of the more general establishment of chairs of oral and dental surgery in the medical colleges of the country. He saw no reason for the separation of this department from the rest, and regretted his not being allowed to read his paper.

The report of the committee on necrology was called for, and Dr. J. M. Fouer, the chairman, stated that as the work of the committee had been published during the year in the Journal, there was really no report to make. The committee was requested to publish their report in the same manner the ensuing year.

Dr. C. W. Franzoni, of Washington, presented a resolution calling upon members of the Association to use their efforts to secure by national or state legislation, a more thorough medical as well as general education of those who desire to practice medicine.

Dr. Karl Seiler, of Philadelphia, presented an amendment to the by-laws of the Association providing for the division of the section of ophthalmology into two, one embracing ophthalmology and otology, the other laryngology, etc.

The report of the treasurer showed a balance of $2,212. 07 in the treasury. The treasurer also called attention to the fact that to retain membership in the Association it is required to pay five dollars annually, and not once or twice in three years, as is the practice of some members.

The report of the librarian showed a total of 2,066 volumes in the library, or over 6,000 including pamphlets. During the past year 249 volumes had been added.

Dr. J. C. Green, of Buffalo, N. Y., offered a resolution to petition Congress to issue as soon as possible the third volume of the Medical History of the War of the Rebellion, and also for the publication of a uniform edition of the combined Medical and Surgical History of the War, in order that the members of the medical profession might be supplied with the work a a moderate cost.

A resolution was offered by Dr. Beach, asking Congress for the immediate adoption of measures for the suppression of the disease among cattle known as pleuro-pneumonia, which he thought would be obtained by the passage of a bill now before that body.

Dr. Henry F. Campbell, of Augusta, Ga., was now conducted to the platform, and introduced in a few fitting words by President Flint. He, in turn, thanked the Association for the honor conferred upon him.

Dr. Brodie offered a resolution that the Board of Trustees be authorized to procure a stenographic report of the proceedings of the Association at future meetings.

Dr. Von Klein, of Dayton, offered a resolution providing for the abandonment of the custom of opening the meetings of the Association with prayer, a feature of the meetings which he considered an imposition on certain members who differ in belief from the rest.

A motion to lay the resolution on the table was offered simultaneously by several delegates, and carried by an unanimous vote.

A resolution was offered protesting against members of the profession signing certificates as to the harmlessness or beneficial action of mineral waters, proprietary or trade-mark medicines, bitters, etc. Unanimously adopted.

A resolution was passed asking Congress to enact laws requiring manufacturers of caustic potash and soda, as ordinarily sold under the name of concentrated lye, to label their articles "poison," and to regulate their sale in the same way as other poisonous articles.

The chair then announced the names of gentlemen appointed delegates to the Canadian Medical Association, the British and other European Associations.

Dr. Gihon presented a resolution asking for the appointment of a committee to consider the advisability of erecting in Washington a monument to the memory of the renowned Dr. Rush.

Resolutions of thanks were then offered to everybody who had in any way, immediate or remote, aided in making the visit or the meetings of the Association enjoyable, and to President Flint for the efficient performance of the duties of his office. Dr. Flint responded in a few kindly words, thanking the Association for its co-operation, and the Association was declared adjourned.

THE PHILADELPHIA CLINICAL SOCIETY.

Stated Meeting April 25, 1884.

H. BEATES, JR., M.D., *Pres't in the Chair.*

DR. HANNA T. CROASDALE reported a case of

Vesico-Vaginal Fistula with Inverted Bladder.

The record which is brought to your notice this evening is that of a case which perhaps is possessed of more than ordinary interest from two circumstances; first from the enormous size of the opening in the septum, and secondly from the fact that from the orifice a bright round body protruded, which was discovered to be the bladder inverted. The patient M. T——. æt. forty-seven was admitted to the Woman's Hospital October 11, 1881. She was married at the age of twenty-five and had one child stillborn. The labor was instrumental, and incontinence of urine occurred soon after it, thirty years ago.

For this trouble and great discomfort the woman never sought relief, and speaks only of her present suffering having begun one year before admission. This suffering had been so intense that she had been obliged to keep her bed for that length of time. The journey from her home had been made on a bed. Her appearance was deplorable. She had constant pain in the lower part of the abdomen; bowels were constipated, appetite poor, face anxious, and she was constantly distressed lest the bed or her clothing be moved and thereby her sufferings be increased. It seems almost hopeless to expect to do anything for the poor woman's relief, so disturbed was her health from her desperate condition.

Nausea and vomiting were almost constantly present. Her pulse on the day following that of her admission was 65; temperature 99°; respiration 26. The quantity of urine in twenty-fours hours could not be ascertained. The color was pale yellow; sp. gr. 1002; reaction alkaline, and there was a trace of albumen. After ineffectual attempts she was finally etherized and thoroughly examined Oct. 29th.

The tumor which was so exquisitely sensitive was the inverted bladder, and the exposed mucous membrane was greatly inflamed and bled readily on being touched. openings into both ureters could be distinctly seen. The mass was grasped and by gentle taxis was reduced and retained, by the slight support afforded by one of Skene's glass stylets made to pass through the urethra with the distal extremity resting upon the upper edge of the fistulous opening. A vaginal glass plug was introduced into the vagina to aid in supporting the bladder. The inflamed condition of the parts forbade any further procedure at this time.

On the 30th of November, she was again etherized and placed in the lithotomy position, and the edge of the fistula, which was about five centimetres in diameter, was carefully pared, bevelled from the vesical margin, giving a broad surface on the vaginal septum, and twelve sutures of silver were introduced. It was necessary, before closing the fistula, to liberate adhesive bands at either angle, and then the margins of the opening were closed by the sutures and secured by perforated shot. A self-retaining catheter was introduced to which was attached a piece of rubber tubing for conveying the urine to the urinal. The patient was then placed in bed and ⅙ gr. morph. sulph. given hypodermatically and was ordered limewater and milk every two hours.

The following day, December 2, there was much vesical tenesmus, which gradually subsided, and nothing especially worthy of note occurred until December 7th, when the sutures were removed. Union was not perfect at either angle, and in the center there was a small orifice which admitted the passage of urine.

January 6th the patient was again etherized; the edges of the three minute openings freshened, and fine silver wire suture introduced. The central and right openings promptly closed after this second operation, but the left, just at the site of the ureter, admitted the passage of a Snelling's probe.

Then January 20th, February 3rd, and March 28th, I operated, hoping to close this minute orifice which still remained, and which still allowed of the passage of urine when the bladder was filled, not one of these efforts was followed by any better success. These attempts were always made with a probe carried through the urethra into the opening in the ureter in order to prevent wounding or closing the latter.

It was now thought best to send the patient home and encourage her coming again in the autumn, as her stay had already been much prolonged beyond the usual time for keeping patients in the hospital, and she was discharged May 8th quite content on her part with the results of the many operations—six in all. After several months, however, the urine ceased to pass through this opening, probably from the contractions of cicatricial tissue.

I find many contributions to the surgical literature for the relief of vesico-vaginal fistula, but nowhere have I found any record of a case of an inverted bladder through the fistulous orifice.

G. B. MASSEY, M.D., *Secretary.*
1502 Arch Street.

ACADEMY OF MEDICINE. — At the meeting of Monday, May 19th, Dr. Seely will read a paper on "Ocular Therapeutics;" Dr. Zenner will present a patient with general muscular atrophy, and Dr. Ravogli a case of Area Celsi.

CINCINNATI MEDICAL SOCIETY.—At the next meeting, on May 20th, Dr. Zenner will read a paper on "Cerebral Localization—the Centres for Vision."

NARCOTICS AND "CELESTIAL HAPPINESS." —A sect is said to have been lately discovered at Rostov, in South Russia, whose object is the poisoning of children by narcotics. It is believed to owe its origin to a woman who murdered her children, "in order to deliver them from earthly suffering, and to procure for them celestial happiness."—*British Med. Jour.*

THE CINCINNATI
LANCET AND CLINIC
A Weekly Journal of
MEDICINE AND SURGERY,
ISSUED EVERY SATURDAY.

TERMS, $3.50 PER ANNUM IN ADVANCE.

☞All letters and communications should be addressed to, and all checks, drafts, and money orders made payable to
DR. J. C. CULBERTSON,
EDITOR AND PUBLISHER,
281 W. 7th STREET, CINCINNATI, OHIO.

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Cincinnati, May 17, 1884.

Translations.

ON THE ACTION OF KAIRIN.—By Dr. A. De Renzi (*Giornale Internazionale delle Scienze Mediche, Napoli*).

This alkaloid, recently discovered and introduced into medical practice, was composed by Dr. O. Fisher, of Munich, from the hydrate of chinolin, under the formula $C_{10} H_{18} NO$. The kairin, which we receive in commerce, comes from the chemical laboratory of Messrs. Lucius & Brunning, Höchst, corresponds to the hydrochlorate of kairin, and is a crystallized powder, yellowish gray, about white, of bitter aromatic taste and not disagreeable to most people. Kairin is very easily administered wrapped up in a wafer from 0.25 to 0.50 at each dose. After every dose it is well to drink some water. The principal action of kairin is antipyretic, diminishing the temperature in feverish patients. Now, as fever is a very common phenomenon and the most dangerous symptom is the high temperature, the discovery of a powerful antipyretic remedy is of great interest. Prof. Filehne tried this remedy in the clinic of Prof. Leube and found it very useful in reducing high temperature. The drug was used in twelve cases of different diseases where the temperature was constantly diminished. In cases of diabetes mellitus the change in the urine was very remarkable, especially on the second day after the administration, increasing the quantity of the urine, its specific gravity, the glucoses and the urea, returning gradually to its precedent condition. The pulse diminishes in number, commonly the diminution is never less than five pulsations to each minute. In one case there was no change. The sphygmograph applied before and after the administration of kairin shows the cardiac contraction increased in strength, from the length of the ascendent line, from the more regular curve, and from the beat at the apex of the curve. The change begins ten minutes after the ingestion of the remedy. After one to two hours the strength of the pulse increases; after five hours the modifications on the pulse produced by kairin have entirely disappeared.

2. On the respiration. The number of respirations commonly diminishes; never more than the fifth part of the number of respirations, except in one case where the number diminished more than one-fourth. In one case there was no change, and in two others the respirations increased one-fifth.

3. On the temperature. The temperature diminishes, sometimes to the temperature of collapse, if the remedy is continued. The maximum diminution of temperature happens commonly after two hours, or within from one to four hours.

4. On the secretions. The urine generally is unaltered in its quantity. The specific gravity is not changed. The color turns to green, remaining so sometimes for more than two days from the administration of the remedy. The reaction is strongly acid, remaining so sometimes for three days. Chemical examination shows that the remedy has an influence on the salts and on the urea.

The production of the sweat is about constant. In one case was missing and in four cases was extraordinary. Abundant perspiration appears ordinarily after half an hour, reaching its maximum after one hour.

In four cases the tears appeared very abundant, accompanied with an irritation of the eyelids. In four other cases a kind of whitish fluid was flowing from the nostrils, which was associated with a burning sensation of the nose.

5. On the nervous system. In two cases only some general spasm was remarked. In one of these cases spasmodic movements of the muscles of the face appeared. Not in a single case were noises in the ears, disturbances of the eyes, heaviness in

the head, etc., noticed, on the contrary, the nervous activity of the special senses and of the intelligence was increased. The muscular power, measured with the dynamometer, showed an increase of one-fourth, not in a transitory way, but persisting sometimes for many days.

6. Elimination. It is evident that this remedy is eliminated by way of the kidneys. The kairin is found in the urine by adding some perchloride of iron and boiling the fluid. The urine tried in this way shows a red color. In one case the urine, passed four hours after the administration of the remedy, showed signs of its presence. In another case after one hour and thirty minutes there was no doubt of its presence. Kairin is eliminated after different times which generally do not exceed twenty-four hours. Fifty hours after large doses there were still signs of its presence in the urine.

Therapeutic Action. The temperature diminishes constantly. This diminution of temperature sometimes is very remarkable, reaching the normal point. Sometimes the diminution of the temperature does not reach one degree; in my observations the maximum was 3° and the minimum 0.6°. The duration of the apyretic periods are very variable. In some cases fever did not appear any more, as in three observations; in one case fever came back again after four hours and thirty minutes; in another after three hours, and finally in one fever appeared again after one hour. The diminution of temperature, when it did not reach the normal point, is very fleeting, as the diminution under 0.6° lasted only one hour.

The quantity of the remedy that is necessary for obtaining the complete apyrexy: In one case 1 gramme (15 grs.) was enough; in three cases 1 gramme and 50 centigrammes produced the effect; in one case 4 grammes and 50 centigrammes. In some cases very large doses of kairin were not sufficient to produce the apyrexy, as in one case where 12 grammes and 50 centigrammes were administered.

Antiseptic Action. Kairin is an antiseptic substance, as was observed in the following experiments:

In two small test-tubes we put 15 grammes of urine from the same patient, adding to one 25 centigrammes of kairin.

1. After twenty-four hours the urine containing kairin had acid reaction and no odor of ammonia. On the contrary the urine without kairin was of alkaline reaction, with strong odor of ammonia, and of turbid appearance.

2. In two test-tubes we put 6 grammes of sputa obtained from the same patient affected by pneumonia. To one we added 25 centigrammes of kairin. After twenty-four hours the solution without kairin appeared turbid, whitish, with bad smell; the other appeared orange red, with a slight aromatic smell. The reaction is acid in both solutions. Under the microscope, in the solution without kairin, the bacteria were exceedingly numerous; in the other, with the kairin, they are scarcely noticed.

After forty-eight hours the conditions are about the same, after three days the characters of the decomposition are much more remarkable in the solution without kairin, meanwhile, in the other solution, no sign of decomposition is present.

3. Twenty centigrammes of urine of one patient was kept under observation in a test-tube. The patient, in the preceding twenty-four hours, took 5 grammes and 50 centigrammes of kairin. The urine has specific gravity of 1022, green color, reaction exceedingly acid. This urine, after three days, only shows an alkaline reaction and presents a very slight odor of ammonia.

4. In two glasses of the same capacity we put fifteen grammes of beef, adding to one a one per cent solution of carbolic acid, to the the second a one per cent solution of kairin. After five days the meat immersed in the carbolic acid solution had a bad smell of phenol, the other in the kairin had a pleasant aromatic odor. After five days more, the odor of carbolic acid covered every other in the first infusion. In the second glass, with the kairin, the fluid is divided into two strata, the inferior red, the superior brown-red, and the meat had begun to putrify in only one place. In this fluid many bacteria appeared under the microscope, but with torpid movements. The experiments were made in the warmest season of the year.

Conclusion. Kairin has undoubted antipyretic action, unaccompanied by marked phenomena. In one patient only, after a large dose, an intense pain occurred in the nose, spreading to the forehead and occiput which disappeared in a very short time after the effects of the drug had subsided, Increase in the muscular strength was constantly noted by the dynamometer. From a comparison of my experiments with kairin and quinine I conclude that the increase of muscular strength is more decided, and more independent of the fall of temperature, while using the kairin. Under the influence of the kairin there is not the noise in the ears, the headache, the deafness and dullness which is produced by large doses of quinine. A. R.

VARIEDADES SCIENTIFICAS.

A um fregues que Partire sem pagar a Conta.(1)

By Paul Viesse.

Translated from the "*Revista de Medicina*," March 25, 1884, by T.C.M.

Oh! cursed deceiver of my hopes! I bitterly complain
That, without the slightest warning, you skipped on the evening train;
Reached, by flying *incognito*, some blissful foreign shore,
Where visions of my doctor bill will bother you no more.
Ran away from me, when daily, with love and true regard,
I scanned the growth of your account, for times were growing hard.
Ingrate! you stole my bougies, some capsules, then off rushed!
You scoundrel! Thief and villian! I'm feeling sadly crushed!
Cursed be thy generation to the very latest line;
May your hair drop out, baldheaded, may age hang out its sign;
May the fires of Hell within thy bowels cause many bitter wails;
May colon and ileus twist a knot and worry thy entrails;
And when avenging Providence to thee such joy has given,
May angels dance with wild delight and waltz about in heaven!
May you howl, groan, swear by the week, suffering from disaster,
And, asking the devil to your side, receive—a mustard-plaster.
Feel fleas and bedbugs bite at night enough to make you scream,
And, waking, find reality ten times worse than the dream;
May typhus fever burn you up while you are on this trip;
May never a drop of water touch your parched accursed lip;
In spite of Hamilton's specific, or ointment of Styrax,
May an angry furuncle's attack be changed into anthrax;
May thy mouth be filled by rotten foam inhabited by worms,
May thy tongue develop cancer cells of most malignant germs;
May every poison on the earth be boiled down into one,
And develop every toxic sign known underneath the sun.
May your breathing be oppressed, your bones full of hellish pain;
May you have cramps, colic, gall-stones, congestion of the brain!
Then my prayers for consolation will never be complete,
Until big horns grow from your head and bunions on your feet.
Aud when your final hour shall come, as certainly it will,
May Death choke you most slowly, with phlegm your wind pipes fill!
So that when gasping, smothering, over your bed a rolling,
May you hear the solemn requiem of a pestle mortar tolling..

Case of Renal Calculus.—Mr D. V. D., æt. 27, of bilious temperament, began to complain of dull aching pain in the lumbar region in June, 1883. Being hard worked mentally, and of a very sedentary habit, I attached little importance to his frequent, yea, almost constant complaints. till in October when he was taken down with nephritic colic. This was relieved in the usual way with morphia hypodermically, etc. Contrary to the rule in a majority of these cases, the attack recurred again and again. Confirmed then in the opinion that I had an impacted, or, at least, a calculus in the kidney to deal with, I gave him all the usually prescribed remedies for the solution of the stone. But my hopes were blighted every time, till in January, 1884, I concluded to order lithiated hydrangea (Lambert & Co.). I prescribed it in drachm doses four times a day. The patient, who, by the way, is a student of medicine and very intellient, expressed himself in a few days as feeling better. He had only one attack of colic during the time he took the first bottle, and when he had used the second bottle he had a very light attack, in which he passed a skeleton-stone, *i.e.*, a mere shell. He is still using the medicine but has had no return, and to all appearances is well. I have used the hydrangea in only one case of cystic disease outside that reported above, but with favorable results.—Thomas M. Jordan, M.D., Hookertown, N.C., in the *Philadelphia Medical and Surgical Reporter*.

Castor Oil as a Lubricant in Catheterization.—Dr. Mitchell, in the *Lancet*, Feb., 1884, p. 283, describes his practical experience with the use of castor oil as a lubricant in catheterization. Owing to its viscidity and tenacity, castor oil is carried upon the catheter down to the prostatic portion of the urethra, and to the neck of the bladder, whereas other substances leave the extremity of the catheter long before those parts are reached.

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[1] To a rascal who ran away without paying his doctor bill.

Selections.

MEDICINE.

HYPODERMIC USE OF KAIRINE AS AN ANTIPYRETIC.—Dr. Queirolo (*Gazz. degli Ospitali*, No. 101) undertook a series of observations to determine the effects of kairine given hypodermically. He found that injections of from ten to fifty centigrammes produced neither general nor local troubles. perspiration was sometimes checked, sometimes not. Reduction of temperature was, however, occasioned, the fall commencing rapidly, attaining its maximum in two hours and gradually disappearing at the end of five hours. Pulse diminishes with the temperature. He concludes:

1. Kairine by hypodermic injection produces a lowering of the temperature more rapid, more enduring, and more marked than when taken by the mouth.

2. In order to produce this fall in temperature, the hypodermic method does not require such large or such frequent doses as the ordinary methods.

3. The hypodermic injection of kairine is exempt from all inconveniences and all local accidents. Kairine is soluble in warm water, and may be given in doses of from one to fifteen grains.—*Medical Times.*

EPILEPSY WITH SUPPURATION OF CERVICAL GLANDS; INCISION; LARGE DOSE OF BROMIDE OF POTASSIUM.—Mr. Nicholson, in the *Lancet*, November, 1883, p. 937, records the case of an idiot boy, æt. eleven, who had suffered for eight years from epilepsy. When first seen, the boy was taking ninety grains of bromide of potassium without any appreciable effect. There was great emaciation, and also suppuration of the cervical glands of the left side. An incision was made into the abscess of the neck, and shortly afterward the boy, obtaining possession of his medicine bottle, drank off two ounces and a half of solution of bromide of potassium at a dose. After this the fits entirely ceased for ten weeks, when the patient was lost sight of. Was the improvement due to the opening of the abscess or to the dose of bromide, or did the fits stop of their own accord in the ordinary course of events?—*Lon. Med. Rec.*

SCARLET FEVER: HOW TO LIMIT ITS CONTAGION.—W. A. Jamieson, M. D., (*Edinburg Med. Jour.*, *March.*) The author states that the disease is scarcely if at all infectious in its earliest period when most easily recognized, but it becomes day by day for a considerable time increasingly communicable. The susceptibility to the disease diminishes with advancing age. The contagium of the disease exists in the desquamated skin, and in the exhalations of the lungs. We have no available means of disinfecting the atmosphere of a room while the patient is in the apartment. The first essential is to isolate the patient and his attendants. The second is to use proper disinfectants about the throat, and over the skin of the patient during desquamation. We too often disinfect the patient's clothing and bedding, but forget to disinfect the patient himself. Warm baths should be used daily from the outset at a temperature of 95° to 98° F. After drying the skin the whole body should be anointed with the following:

℞ Acid. Carbol., ʒss.
Thymol, gr. x.
Vaseline, ʒi.
Ungt. Simp., q. s. ad ℥i.
M. Ft. Ungt.

The thymol must be dissolved by a little heat or its crystals will irritate the skin.

This should be used in the morning as well as after the nightly bath. When the patient is well enough, a thorough scrubbing of the whole body, the head included, with carbolic acid soap, is useful to remove any lurking traces of infection. For the throat the best disinfectant is a saturated solution of Batfi's boroglyceride in glycerine. The throat, tonsils and nose if affected should be brushed with this three or four times a day. It is painless, and the taste is not disagreeable. All linen used about the patient should be immediately put in a carbolized solution. The author thinks that if the plan above indicated be carried out, it is unnecessary to isolate the patient for the whole period of desquamation. This is variable in different cases. The physician's injunctions are usually disregarded. The state of the patient's health and the stage of his convalescence are better guides to the time when he should be allowed to mingle with others.

The room should be thoroughly scrubbed, and fumigated with sulphur. What protection is afforded by the above measures in cases in which isolation is impossible, is illustrated by the following examples. A family in which were five children occupied two rooms. None had had scarlatina. The oldest having contracted it from exposure, the parents refused to allow her to be sent to a hospital. The directions were carried out faithfully, and none of the others took the disease. In another family, also occupying two rooms, were four boys and the parents. The youngest, aged 13, had a severe attack of scarlatina anginosa. He was delirious for days. All in the family assisted in the care of the patient, and none took the disease. In no instance—and there were many—in which this treatment had been carried out, was there a fresh case after its commencement.—*Archives of Pediatrics.*

DISTURBANCES OF DEVELOPMENT OF THE TEETH IN CHILDREN, AND THEIR TREATMENT.—Morgenstern, (*Arch. f. Kinderk.*, B. V. H. 1 and 2.)

Disturbances of development may be considered under the heads of irregularity as to the time of eruption, as to number, form, size, substance and position. As to irregularity in time, these are almost too well known to require particular notice. Especially in rachitis is the eruption retarded, the first of the milk-teeth appearing three to nine months later than is customary, and the last being still undeveloped, in many cases, at the end of the third year. Ritter von Rittershain and Boginsky are quoted in support of this assertion. Mechanical causes, for example, irregular development of the maxillæ, are also responsible for delayed eruption in certain cases. Irregularities in the position of permanent teeth are often due to improprieties in the removal of the milk-teeth—the fact which Trousseau has stated having been forgotten —that dentition is a continuous process, the second set being put forth after the roots of the first are absorbed. Hence unseemly gaps are sometimes occasioned by premature removals, with deformities as to position, etc. Anomalies in direction, and dislocations of the permanent teeth, may also originate in diseased processes of the alveoli and of the jaw, and in improperly directed force from the contractions of the muscles of the tongue and face. The latter factor might seem insignificant at first thought, but the author goes into an elaborate demonstration of its importance. The treatment of the various irregularities of the teeth is indicated from dietetic, phonetic and cosmetic considerations. A wise prophylaxis exerted toward the the preservation of the milk-teeth will have its influence on the condition of the permanent ones. In filling the former the author counsels against the plugging of cavities in the roots, as this may delay or hinder the absorption process. In cases in which there is extensive disease in or around a milk-tooth, extraction is indicated. Narrowness of the alveolar arch in early life may be the source of much deformity as to the teeth, and the author suggests a way of correcting it by means of a suitably connected frame of rubber and iron wire, which, he says, offers a favorable prognosis if worn for a few days.—*Arch. of Pediatrics.*

THE ACTION OF SALICYLATE OF SODA UPON THE UTERUS.—Dr. Balette (*Bulletin Général de Ther.*) has found the salicylate of soda in ordinary therapeutic doses to quiet the pains of dysmenorrhœa, by exerting a sedative action upon the central nervous system.

It seems to increase the menses, and in some cases to cause their reappearance. In four cases, the use of salicylate of soda in large doses produced abortion—in two of the cases at the end of a day and a half, and in one case at the end of two months (?). In five other observations, the drug in moderate doses produced no such result. Therefore, in many cases, the action of salicylate of soda in weak doses has no abortive effect upon the uterus. In his experiments upon animals, this drug had no oxytocic effect.

However, as there are women who are predisposed to abortion, and as experience shows that in large doses the drug has produced abortion, it would be wiser not to give the salicylate of soda in pregnancy, except in special cases, and then to determine with care the degree of tolerance shown by the patient.—*Jour. Am. Med. Assn.*

TENDON REFLEXES.—The *Centrab. f. d. Med. Wiss.*, of Dec. 8, gives Jendrasssk's conclusions on this subject, based upon experiments of the various conditions necessary for the presence or absence of tendon-reflex:

1. The knee-jerk is a true reflex, caused by mechanical irritation of the nerves which lie in the patellar tendon.

2. The muscle must be in a condition of passive tension; up to a certain point the amount of contraction is proportionate to the degree to which the muscle is stretched.

3. Voluntary innervation of the crural nerve lessens the reflex or prevents it altogether. Contraction of the muscles innervated by the great sciatic not only does not hinder the knee jerk, but even favors it.

4. The path of the reflex action in the spinal cord is through the gray substance only; lesions of the white can not be regarded as direct causes for the failure of the reflex action.

5. Physiological increase of tendon reflexes appears on innervation of other muscles of the body, simultaneous raising of weights or powerful stretching of muscles increases the reflex contraction.

6. Pathological increase of tendon reflexes may in most cases be regarded as the result of interruption of the inhibitory influence of the brain on the spinal cord.

7. The author does not regard the foot phenomenon as a reflex action, but explains it as a *tonic* spasm caused by the mechanical irritation of the sudden stretching of the soleus; the irritability of the muscle must be raised to produce this. Stretching of the crural nerve in five cases in rabbits left the patellar tendon reflex intact, even when the stretching was gradually increased till the nerve was torn.—*Lon. Med. Record.*

ROTARY EPILEPSY. — Dr. Scheiber, of Buda-Pest, communicates to the *Weiner Med. Blatter*, of October 4, 11 and 18, an account of a remarkable case of what he calls epilepsia rotoria, in a married woman, 46 years of age. The patient had always been quite healthy, and had never suffered in childhood from any nervous trouble, nor had any such been in her family. In 1861 and 1870 respectively, she had severe frights, in one case from the discharge of a gun in the room where her children were, in the other from a report that one of her boys had fallen into the river, but both passed off without leaving any consequences, and she was a bright, lively woman, helping her husband in the school which he taught.

In 1871 she changed her residence, and three months afterward, being in her ninth pregnancy, she felt a sudden attack of giddiness while cooking, one morning. The feeling lasted only a few seconds, and was accompanied by a sensation as if her face had been turned rapidly toward the left. Some weeks afterward the same feeling returned while she was engaged in washing, and after another few weeks, in the seventh month of pregnancy, such a strong attack of giddiness came upon her that her husband was obliged to hold her, and at the same time her whole body was turned rapidly and violently on its vertical axis three or four times toward the left. These attacks occurred three or four times every day, but were followed by no unpleasant symptoms, and at the end of the pregnancy they ceased altogether.

During the fifth month of the tenth pregnancy, they came on again in the same way, to disappear after the birth of the child. In 1876, when she was six months pregnant of her eleventh child, she had a sudden and violent epileptic fit, beginning as before with giddiness and rotary movements, and followed by convulsions and loss of consciousness, which lasted for three days, with epileptic seizures every half hour. These severe attacks then occurred nearly every day, and did not cease as before with the termination of the pregnancy, but have continued more or less ever since, coming on also during the night.

The less severe attacks are always associated with the rotary movements, which occur when the patient is standing or walking, without causing her to fall, and leave her standing quite still, without giddiness or staggering. If she be seated when they come on, she suddenly springs to her feet, and then the rotation begins, feeling, she says, as if some one seized her by the head and forcibly turned her round. If she be lying in bed, she is at once forced into a sitting posture, even from the deepest sleep, after which she falls back on the bed and is rolled in the same direction, only prevented by her husband from rolling on the floor. The severer attacks, amounting to loss of consciousness, leave exhaustion and weariness, so that this exhaustion is often the only sign by which she knows that she has had an attack during the night.

In 1878 she took bromide of potassium and atropine, with the result of stopping the attacks, but she felt so ill and wretched the whole time that the treatment was stopped, as she preferred having the attacks and then feeling, as she always had done, perfectly well in the intervals. When the attacks came on after that treatment it was with some considerable variation; the severer fits did not return, and the milder ones only at night, so that the patient gradually became able to move about by day, and even to take long walks. During the night, however, they became very frequent, six or seven in one night, and finally they were liable to come even as soon as she closed her eyes, or if she lay down during the day. The severer attacks then began coming on during the night, once a week, occurring generally between the hours of three and six A. M. She now became able to prevent the rotary movements during the day, when the giddiness gave her sufficient warning, by several rapidly drawn respirations, which were always successful when the warning occurred soon enough. During two absences from her home in Alba, one of six weeks and the other of ten days, no attacks occurred, but they reappeared at once on her return home.

During the period of the severe attacks she has borne two more children, making thirteen in all; the pregnancies and deliveries having been normal, and the children healthy and strong. Large doses of bromide of potassium have been given by Dr. Scheiber, but 6 grammes (90 grains) a day, which cut short the attacks, produced toxic effects, and had to be diminished. In June, 1883, the severe attacks had entirely ceased, the milder ones had become still milder and less frequent, and in August, under the influence of a combination of bromides of potassium, sodium, and ammonium, of each two grammes (30 grains) daily, the day time attacks ceased, the two or three during the night were inconsiderable, and the patient seemed as well and strong as ever, with only a little weakness of memory.

The author ascribes what is undoubtedly a form of epilepsy to a deposit of osteophytes on the interior of the skull during the successive pregnancies in which the attacks broke out, and the remarkable fact that the intellect should have remained intact after twelve years of epileptic attacks, is attributed by him to the epilepsy having been acquired at a late period of life.—

London Medical Record.

NOTE ON MENTAL SUGGESTION.—By Prof. C. Richet, M.D., (Paris).

Among the various phenomena which have recently excited the curiosity of investigators, none are more interesting than those to which the name of "mental suggestion" has been given. It is true that these facts—supposing that they be facts—have long been affirmed by professional magnetisers; but none have hitherto been able to give a formal demonstration of it. The more indeed they sought to prove mental suggestion, the more it seemed to escape every scientific control.

Let us first define the term "mental suggestion."

Suggestion implies the inspiration of a thought to a hypnotised, magnetised, or normal subject. Whether this suggestion be the consequence of a gesture, word, or any other indication, it is a *material*, not a *mental* suggestion, as it were, easy of explanation, and not offering any cause for surprise. But what would be most important to prove is that this suggestion may be exercised, without the least external gesture, by the effort of thought alone. Such a suggestion, occurring independently of the least external indication, would be *mental.*

The following example will explain the difference between expressed and mental suggestion: Assuming the subject to be hypnotised and sensitive, it will be enough to describe a few zigzags with the finger on the floor, in order that the magnetised individual shall believe he sees a serpent. This is an example of expressed suggestion, and the production of the image *serpent* in the mind of the subject presents nothing wonderful, in presence of the cerebral excitation.

What would be highly astonishing is that the same image should arise without an external gesture or indication, and that the intellectual effort should, without any external manifestation, provoke the idea *serpent* in another mind. That is what many magnetisers say does take place, and it must be granted that some are of good faith, and that a few are even pretty good observers. But hitherto I am not aware that they have been able to prove the fact.

Hence he who should give a formal and scientific demonstration of mental suggestion would certainly make a true discovery, and one of the most important of our times. For the honor of a discovery does not belong so much to him who affirms a fact without demonstrating it, as to him who proves it after it has been affirmed by others. I have only sought, and am still seeking, to obtain a decisive proof of mental suggestion; unfortunately I must confess that my results have not been satisfactory, though I have had to do with some very sensitive and well-trained subjects.

My only object here is to indicate how the experiment may be performed. It is necessary, before all, that the action to be suggested mentally be simple, and not ridiculously complicated, as when the object is to deceive an ignorant public. The simplest way is to make the subject count aloud, and at any moment to give him a mental order to stop, after he has been warned that he is going to be stopped during the process of counting. In order to effect this, one must have sufficient self-command to restrain the least movements, or even the least change in the respiratory rhythm—in other words, to secure the purely mental nature of the suggestion. For the hyperæsthesia of the subject is sometimes such that the least gesture is perceived through the disturbance of the air it produces.

Following such a method, I have repeatedly ascertained that it is almost impossible to obtain a proof of mental suggestion—at any rate I have been unable to do so. It happens that the subject stops at the desired number, once or twice or three times, at the beginning of the experiment; but even this is not regular. At any rate, after the second answer the results become so divergent as to exclude every scientific deduction.

It has also seemed to me that there is a certain delay between the number mentally selected and the number at which the subject stopped. If, for instance, the number eight is thought, the subject, counting aloud, stops at eleven.

These data, however imperfect they are, and far from establishing the almost miraculous fact of mental suggestion, will perhaps serve to some more successful experimenter for giving a demonstration which hitherto has not been obtained.—*Brain*,

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A NEW HISTOLOGICAL METHOD FOR THE STUDY OF NERVE-TRACTS IN THE BRAIN AND SPINAL CHORD.—By Dr. Sigm. Freud. *Assistant Physician to the Vienna General Hospital.*

In the course of my studies on the structure and development of the medulla oblongata I succeeded in working out the following method, which will be found a powerful aid in tracing the course of fibres in the central nervous system of the adult and the embryo.

Pieces of the organ are hardened in bichromate of potash, or in *Erlick's* fluid (2½ parts of bichromate of potash and ½ of sulphate of copper to 100 parts of water), and the process of hardening is finished by placing the specimen in alcohol; thin sections are cut by means of a microtome and washed in distilled water. The washed sections are brought into an aqueous solution of chloride of gold (1 to 100) to which is added half or an equal volume of strong alcohol. This mixture is to be preferred to the simple aqueous solution of chloride of gold, which has been hitherto used in staining preparations; the sections are to remain in it from three to five hours. With the aid of a wooden rod (metal to be avoided) they are taken out of this solution, washed in distilled water and placed in a concentrated solution of caustic soda (1 to 5 or 6 of water); which very soon renders them transparent and slippery. After two or three minutes the preparations are taken out of the soda with the same wooden rod (toothpick or match), and the superfluous soda is allowed to drop off. The sections are then, with the soda they still contain, put into a 10 per cent. solution of iodide of potash where they almost immediately receive a tender rose-colouring, which changes into darker hues of red during the next five to fifteen minutes. Now if the preparation be from the nervous system of the adult, it may be simply washed in water and transferred into alcohol, to be mounted in the usual way. But if it be of the brain or spinal cord of the new-born or the embryo, this treatment would spoil the section, by causing it to shrink, and throwing it into folds. Therefore these preparations must be brought upon a glass-slide by means of a camel's-hair brush, and dried by gently (without pressure) covering it with a piece of filter-paper. If the sections be very thin and soft, even this must be avoided; for the fibres of the paper would leave traces on the surface of the sections, and render them unfit for the study of the nervous elements. Nothing else can be done but to apply a piece of filter-paper to the edges of the stained preparation lying on the slide, and to draw off the alkaline fluid in this way. This is by far the most tedious stage of the process, yet it is always possible to avoid shrinking and to preserve the most sensitive preparations. The sections nearly dried are allowed to remain in water a few minutes, and are then treated in the way mentioned above.

This method will never fail (as all

methods of staining by chloride of gold will do) if the specimen be not overhardened and brittle, as it is sure to be if kept in the hardening fluid an inordinate length of time. In order to stain the central nervous system of the adult, the method just described may be modified in many ways; but satisfactory preparations from the new-born or the embryo will require scrupulous attention to the details mentioned.

By this method the fibres are made to show in a pink, deep purple, blue or even black color, and are brought distinctly into view, while the grey substance, vessels and neuroglia, lost in the slightly tinged background, are not obtruded upon the attention of the observer. A good many fine fibres, which cannot be revealed by carmine, and were not known until the methods of *Exner* and *Weigert* came into use, are seen scattered everywhere throughout the white and grey substance. In the adult the big nerve-cells also appear, and the ensemble of fibres is much too complicated for analysis; in the new-born and the embryo, the nerve-fibres alone are strikingly brought out, and those bundles, which are already possessed of a medullary sheath, are distinguished by darker coloring from the others. Examined under higher powers, the single axiscylinders are so well defined as to enable one to count their number.

While this method is not adapted to the study of the grey substance, it is believed that it will prove of great service in the study of nerve-tracts, particularly if the central nervous system of the new-born or the embryo be made the subject of investigation.—*Brain.*

SPLENIC ANÆMIA.—Dr. Guido Banti (*Archiv. della Scuola di Anatomia Patologica di Firenze*, and *Annalis Univ di Medical*, November 1883), begins by giving a short historical sketch of this disease, which is often confounded with leukæmia. There are three kinds of leukæmia, the splenic, the lymphatic, and the myelogenic. From lymphatic leukæmia has been gradually distinguished another disease, having in common with it an increase in volume of the lymphatic ganglia, but with this distinction, that in it the characteristic leukæmic change of the blood is wanting. This disease is known under the name of lymphatic anæmia, or Hodgkin's disease (Wilks), pseudo-leukæmia (Wunderich) ;or adenia (Trousseau). Other rare cases are known in which the leukæmic alteration of the blood is wanting, and also the enlargement of the lymphatic glands, but there is instead enlargement of the spleen. This is splenic pseudo-leukæmic, called by Griesinger splenic anæmia or cachexia. Splenic anæmia is characterised by progressive oligæmia, arising without appreciable cause, giving rise to grave disturbances of all the organic functions, œdema, hæmorrhages, irregular fever, almost invariably followed by death, accompanied by marked tumefaction of the spleen and often of the liver, independent of any preceding morbid state, and with no leukæmic change of the blood. Shortly, splenic anæmia is an idiopathic anæmia, accompanied by hypertrophy, also idiopathic, of the spleen, and often of the liver, without leukæmia.

The author gives the history of the three cases which came under his own observation —the first of a woman aged 72, the second of a lad aged 18, and the third of a girl aged 16, the last being the most interesting, as the disease was complicated with hepatic cirrhosis. The disease stands in no relation with the best known causes of common anæmia; it is not caused by either scrofula, rickets, syphilis, or alcoholism. In one patient, the symptoms commenced after bathing in cold water while sweating; in no case was there a history of injury in the left hypochondriac region. The author also rejects the hypothesis of a specific organised agent. Climate, sex, and age, seem to exert no influence. On *post mortem* examination, anæmia and dropsy of the skin and serous membranes are found. The nervous, respiratory, and digestive systems are unaltered. The liver is generally large, reddish-brown or yellow, and under the microscope shows a circumlobular interstitial hepatitis commencing in the portal branches of the triangular spaces and then extending to the interlobular fissures, while the hepatic cells are either unaffected, atrophic in a state of granular degeneration, and deficient in pigment. The spleen is always enlarged, and may even fill in great part the abdominal cavity, and may weigh as much as two or even three kilogrammes (four to six lbs.). Its form is generally preserved; the indentations which always exist on its internal margin appear more marked and deeper, and in consistence it is more or less increased; its color is reddish-brown. The capsule in points may be seen thickened and opaque; more rarely adhesions are found to other organs. The surface on section is of an uniform reddish-brown, on which in some cases whitish hard patches, of the size of a nut, are seen. The histological alterations are atrophy and sclerosis of the Malpighian bodies, disappearance of the normal adenoid tissue and its substitution by a network, with irregular narrow meshes with large, long, ribbon-shaped fibrillary filaments. The author points out that the alterations of the spleen differ much from those found in splenic leukæmia, while they approach those described in the lymphatic glands in malignant lymphoma. For the sake of brevity and clearness, he proposes to call the lesions of the spleen and glands in leukæmia by a different name from those of pseudo-leukæmia, taking as a base the the state of the lymphoid reticulum. And, as in leukæmia there is increase of adenoid tissue without substantial modification of structure, he proposes to call this state *hyperadenia;* in pseudo-leukæmia, there is more or less enlargement of the filaments of the reticulum, as if from their fibrous transformation, and he proposes to call this state *fibro-adenia.*

The disease commences insidiously, and advances without the knowledge of the patient. The author distinguishes three stages. The first consists in enlargement of the spleen, and is unobserved by the sufferer. The second begins with the manifestation of symptoms of anæmia, and is prolonged to the third stage of cachexia, which terminates in death. The enlargement of the spleen, at first unobserved, afterwards gives rise to a sense of weight and dragging in the erect position, and may become actual pain and give rise to most troublesome neuralgia. The phenomena of the anæmia are those observed in ordinary forms of anæmia. The patient is easily tired, the skin and mucous membranes become pale, the breath short, the cardiac impulse strong and frequent; there is then œdema of the lower limbs. These symptoms give rise to marked cachexia, the skin dirty white, like old wax; the fat disappears or is sometimes retained, and the dropsy of the skin and cavities becomes more pronounced. Finally, two conspicous symptoms appear, hæmorrhage and fever, which are not easy of interpretation. The secondary symptoms are, increase in size of the liver, generally depending on interstitial hepatitis, then dyspnœa, dyspepsia, diarrhœa, mental depression, etc. The red blood-corpuscles are more or less diminished. From five millions in a cubic millimètre they descend to four to three, or even one million. Some of these corpuscles have a diameter of 8 micro-millimètres; few surpass this; many vary between six and seven, and many are seen smaller than three or five micro-millimètres. Those surpassing six micro-millimètres are misshapen and oval. In some cases the white corpuscles are not above normal, in others they are more numerous, but never as in leukæmia (one white to twenty to fifty red). Their average diameter is seven or eight micro-millimetres, few reach nine to ten. Their protoplasm is granular, and becomes transparent with acetic acid, showing a nucleus generally single; they do not contain pigment-granules. Nucleated red corpuscles were never observed, and the quantity of hæmoglobin was always diminished, though not to any great degree.. In the urine, uric acid and urea were increased; no albumen or sugar.

Banti maintains that the increase in volume of the spleen is the primary fact in the causation, since it precedes the signs of anæmia, and also because recovery had taken place after extirpation of the hypertrophied spleen. The altered spleen either destroys in great quantity the red corpuscles, or in the bio-chemical processes of the diseased spleen incongruous and irritating materials are formed, which after entering the circulation, alter secondarily the functions of the chyle and blood-making organs. Of these two hypotheses, the author prefers the latter. Of the causes of the primary enlargement of the spleen, Banti has no hypothesis to advance. As to the nature of the disease, he holds that splenic anæmia is only the *pure splenic form of pseudo-leukæmia.* In pseudo-leukæmia, the lymphatic glands are rarely affected alone; more often the spleen is involved at the same time. In some cases, while the spleen has reached a large size, the glands are not enlarged in equal proportion. There is then a continuous chain of facts observed, which commences in those cases in which the spleen alone is affected, passes to those in which few glands are altered, to finish in those in which the spleen and glands are affected equally. The microscopic changes of the spleen are similar to those of the glands in pseudo-leukæmia. The course of the disease is rapid, that is, from five or six months to about three years; the first stage is perhaps the longest and the third the shortest. Progress is continuous, and death follows, except in those cases saved by surgical treatment. The author gives a table of all the cases of splenotomy performed for non-traumatic lesions. These cases are twenty-one in number, among which are four well-ascertained cases of splenic anæmia. Of these four, three, recovered. Banti therefore recommends extirpation of the spleen as the most rational and hopeful treatment. —*The London Medical Record.*

Abstract of an Essay upon the Limitations in Time of Conscious Sensations. Read before the Royal Society, Edinburgh, December, 1883. By John B. Haycraft, M.B., F.R.S. (Edin.) etc., Professor of Physiology at Mason and Queen's Colleges, Birmingham. — If any sensory surface be stimulated for a given period, a sensation will be produced, which will not exactly correspond with this stimulation in point of time. The sensation will be produced a certain interval after the first movement of application of the stimulus, and will remain a certain time after the withdrawal of the stimulus. It follows from this, that two stimuli following one another sufficiently rapidly will give rise to a single sensation. The correspondence in time between the stimulus and sensation varies in the case of the different senses.

In experimenting with tactile impressions rapidly following one another, it was found that if the stimuli are at first applied slowly (1 to 40 per second), they give rise each to a distinct and separate feeling. Stimulate more rapidly, and they are fused, and a feeling or sensation is produced which is termed "roughness." If the impacts follow one another faster than 1400 per second, the sense of "roughness" disappears and a sensation of single impact is produced. It is to be remarked that the knowledge of the cause of the roughness is gained by experience only, and could not be learned by the tactile sense alone. The same sensation called "tickling" is produced, whether an impact stimulates a number of sensory areas one after the other, as in drawing a feather over the skin, or if the impacts follow one another on the same sensory area; for impacts of from 50 to 1400 per second, if applied to the same sensory area produce "roughness" if forcible enough, but when lightly applied, they produce "tickling."

Different areas of the skin vary in sensibility. In more sensitive parts localization in space is more precise than in those parts less sensitive. The experiments of the author, however, show that in the least sensitive parts, *i.e.* skin of the back and chest, stimuli following one another rapidly are as easily distinguished in consciousness as when applied to the more sensitive parts, *i.e.* skin of lip and finger-tip. A study of thermal sensation shows that the correspondence in time between the stimulus and produced sensation varies with the thinness of the epidermis at that part. In no case is the correspondence very exact, an appreciable interval intervening between the application of a cold body and a sensation of cold. The difference in the exact limits of the feelings seen in the different sensations was then shown by the author to be due not to any difference in the centrally produced feelings, but to the differences seen in the translation of the external energy into nerve energy through the end organs. Thus a sensation of touch follows almost immediately the application of the stimulus, which directly affects the end organs; on the other hand, some time elapses before a cold body is felt; the withdrawal of heat from the end organs having to take place through a more or less thick layer of epidermis.

In the sensations of sound and sight, as well as in the tactile sensibility, when stimuli are repeated more and more rapidly, a period preceding complete fusion is reached when the sensation produced is disagreeable in its nature. In the case of sound, the irritation is produced by "beats;" the cause of "dissonance" in music is due to recurring stimuli not to be separated in consciousness, and yet not rapid enough to give rise to a simple sensation of sound. The flickering of a flame is also irritating in its nature, and tickling in the case of tactile sensibility may give rise to excruciating agony. We may compare, therefore, roughness or tickling—tactile sensations—to dissonance in music. —*Brain.*

The Natural History and the Treatment of Syphilis.—By Schumacher, Jr., Resident Physician in Aachen (Aix-la-Chapelle), Germany.

Dr. P. Diday, of Lyons, for many years has distinguished a decreasing and a progressing syphilis. Against the former he employs hygienic remedies, and avoids specifices; but against the latter he uses mercury or iodine and hygiene. It is of great consequence to distinguish these two forms, and to wait at least twelve or fifteen months after the appearance of the chancre. If, during this time, the symptoms of syphilis are only of a secondary nature, and if the recurring symptoms are the same as the former, the "decreasing" syphilis exists, and for a cure the expectant treatment ought to be followed. But if, after this time, severer symptoms, that is, if the so-called tertiary symptoms (gummata), mixed with secondary, appear, one must surely apply specifics, namely, *mercury*.

In similar manner, Diday expresses himself in his history of syphilis (Paris, 1863), declaring that he has seen that syphilis, in spite of methodical specific treatment, lasts very long, and causes later affections of the skin, iritis, diseases of the testicle, and that so-called tertiary affections, and may, in this manner, reappear without any limit; even if the patient is apparently cured, still the inclination to engender enfeebled children remains. This being the form of strong syphilis.

More frequently, he has also observed the contrary, and that was when syphilis, although treated without specifics, restricts itself to superficial lesions, to two or three cutaneous eruptions without importance, and diminishing by degrees; then the health is entirely restored, as the children of such patients, later engendered, will prove. This combination of symptoms constitutes a picure of what is called the mild form of syphilis.

About a discussion on the same subject in the Parisian Society of Surgery, which appeared in the *Gazette des Hopitaux* in 1867, Diday says: "Although mercury cannot prevent the secondary symptoms, it tends to weaken the disease, but it neither prevents recurrences, nor does it destroy the diathesis; children of syphilitic parents are less liable to infection in course of time." He gives no mercury to patients that have indurated ulcers, or to those who have light secondary symptoms, nor to those who have psoriasis palmaris and moist papulæ, but does give it to those affected with scaly and pustular exanthemata, or iritis, onychia, and dysphonia.

In the month of September, 1872, at the Medical Congress of Lyons, Diday read statistics of seventy-four cases of syphilis. Of these, during the time of the appearance of the infecting chancre till the first appearance of the secondary symptoms, forty-nine cases have been cured without the use of mercury and twenty-five directly with mercury, the pills of the iodide of mercury having been given throughout. To give greater demonstrative power to these conclusions, drawn from three observations, he has now these seventy-four cases, of which he later excludes one-quarter on both sides, on account of too short duration of observation, but the rest he pursued as rigidly as possible for ten years, that is, till 1882, and published the result of his observations in the *Annales de Dermat. et Syphilis*, 1882, Nos. 10—11.

After the declaration of Diday, separating, as he does, the cases in easy and difficult ones, I propose to give you his exact views, and give his statistics in the following table, the combination with the figure Hg. denotes the sum of the cases which, after the breaking out of the secondary symptoms, were treated by him with hydrargyrum.

From the history of his cases of syphilis, Diday now suggests five points of controversy:

(1) Does mercury, given on the appearance of the chancre, prevent the appearance of the secondary symptoms?

The answer is no, judging from the results of his observations.

(2) If mercury does not prevent the breaking out of the secondary symptoms, does it not at least weaken the further progress of syphilis?

Hereupon Diday also answers that the success of the expectant treatment, and of the treatment with Hg. immediately after the appearance of chancre is the same in both cases.

(3) Is mercury as powerless against relapses, as it is powerless to prevent the first breaking out of the secondary symptoms?

Although Diday for many years has proclaimed the inefficacy of Hg., and although his cases mentioned in previous years proved now and then the failure of Hg. as a curative agent, yet it did not prove this failure to be a general rule. Nor do his present statistics appear to him as decisive for No. 3 as for Nos. 1 and 2. Nor does it include any clinical facts which could be a support to his adversaries; although, indeed, the comparison of the history of the disease now demonstrated by him shows, as regards the gravity of the symptoms, an almost absolute resemblance between the relapses which appear after a longer or shorter treatment with mercury with those in which an expectant, hygienic treatment had been used. On the contrary, the physician has not a better chance to study the influence of a drug than at the beginning of the disease, when its course is with all patients the same. If one considers that during this time the physician has the full control and the possibility of giving mercury to its full capacity, yet that this preparation deserves by no means the title of a specific, what then can mercury do against the further progress of syphilis, if it cannot prevent the beginning of the disease?

(4) For twenty years Diday has maintained the view that there is a consistency between the gravity of the first general appearances, that is, of the primary and secondary symptoms, and the gravity of the later symptoms of syphilis. The eruptive form (erythematosa) of the first syphilide promises a quicker decline, and is controled; syphilis which appears immediately with papulous exanthemata presages, besides a long duration, a deeper infection of the organism, and then iritis, onychia, and dysphonia are to be foreseen. Finally, the squamous and pustular forms are followed by lasting and strong headaches, by persisting sleeplessness, and, after short duration, by purulent processes, impetigo, ecthyma, and rupia.

The old maxim as to syphilis is entirely wrong—"Nimium ne crede colori." On the contrary, the color of the first breaking out is our best guide. The darker it is, the worse the prognosis.

(5) Diday considers syphilis in most cases a mild disease, as the following sentences, given in questions, prove. May one consider syphilis incurable? Are there not mild and difficult cases? Does syphilis as frequently and as early lead to visceral diseases or to particular lesions of the nervous centres as is asserted? Ought one to adjudicate to syphilis so long a time of expiration; might not one adopt rather a middle degree for syphilis, such as it appears most frequently, say a middle duration, until it is finally cured?

(6) Finally Diday concludes, for the use of the practitioner, that he, without disapproving in the slightest of mercury, only recommends its applications in the sphere of its powder and its benefits, that is, to soften with it every severe breaking out of syphilitic process.

So far the views of Diday. I have considered it my duty to follow closély the experiences of the author, which contain much truth. But it may also be allowed me, though briefly and temporarily, without statistical documents, of course, only in mean proportion, to communicate the results of any own experience, made during the last ten years in Aix-la-Chapelle, which in important points are not at all parallel with the views above reported. I directly point out by this that in Aix-la-Chapelle, in consequence of the peculiarity of our professional work, only difficult cases of syphilis are met with.

The works of Diday show doubtless that, besides the necessary and important regard for hygiene, with him also mercury has become the principal remedy in the treatment of syphilis, as soon as the disease takes a serious form, whether it be in the secondary or in a later stage. Indeed, he makes dialectic turns, in a diplomatic style, to find fault with mercury, but as the tables alone may prove, he has, in group A, in most cases resorted to mercury as soon as the secondary symptoms made their appearance.

The success of the group A also speak in the favor of mercury. For the number cured at the end of the observation grows by so much more the longer the observation, that is, the cure of the disease was made possible by the faithfulness of his patients. Diday may by no means be counted among the antimercuralists, as he tries to make one believe in many places.

To my conviction, in syphilis appearing with severe symptoms, the application of mercury in the form of embrocation or inunctions of the blue ointment will, above all others, give the physician the best results.—*Jour. Cut. and Ven. Diseases.*

PROMPT AND COMPLETE CURE OF PARALYSIS CAUSED BY CEREBRAL HEMORRHAGE.—Authorities differ greatly as to the time which should elapse after an apoplectic attack has been followed by paralysis, before commencing treatment by electricity. The general opinion is in favor of allowing some time to pass, so as to permit the absorption of the clot and the subsidence of the inflammatory reaction. Prof. De Renzi (*Revista Clinica e Therapeutica*, Jan. 1884) on the other hand, thinks that elecricity may be employed, if proper precautions are taken, with the greatest success a short time after the attack, that is, in the first week. To the treatment by electricity he invariably adds other means to prevent the return of the hemorrhage and the development of inflammatory reaction. These consist in the internal use of bromide of potassium, the constant application of cold to the head, and the administration of some drastic purgative whenever there is constipation. The application of electricity exerts an immediate effect on the muscles, which, in the majority of cases, at once regain their contractile power under the influence of the will. S. P. was admitted suffering from cerebral hemorrhage; on the fourth day of the attack there was complete paralysis or the left leg. Electricity was applied to the muscles of the thigh, and immediately afterwards the patient was able to bend the limb and to raise the knee for some distance from the level of the bed. On the next day the patient was unable to extend the limb after bending it; electricity was again applied; he then flexed and extended the leg without difficulty. On the sixth day paralysis of the toes only remained, and this also yielded to electricity. The application of electricity ought to be practised directly the rapid and spontaneous disappearance of the paralytic phenomena, which is usually noticed in the first days after an attack of apoplexy, is arrested. The intensity of the current should be very little, and such that it can hardly be perceived by the observer, touching the rheophores with his fingers wetted in salt water. The interruption of the current must be considerable, the greatest that can be obtained with the automatic interrupting apparatus of the electrical machine. The electrical excitement must be limited to the muscles and intramuscular nerves, therefore the two rheophores must be applied successively for a few seconds to the fleshy parts of the various muscles. The duration of each application is from one to several minutes. The instantaneous action of electricity in paralysis from cerebral hemorrhage is easily explained by admitting that these paralyses are often neurolytic or suspensive, and that they do not depend on destruction of nerve elements. The electricity induces in the nerves a negative variation, which extends to the two extremities of the nerve-fibre; so that it overcomes the state of neurolysis determined at the central extremitiy of the same fibres by the extravasation of blood. —*London Medical Record.*

THE CUTANEOUS ACCIDENTS CONSECUTIVE TO THE INTERNAL USE OF PREPARATIONS OF QUININE.—Dr. G. Bouvard, *Thèse de Paris*, 1883.

1. Quinine preparations internally administered may give rise to cutaneous eruptions.

2. These eruptions, without being absolutely frequent, are not, perhaps, so rare as heretofore believed.

3. The non-recognition of the possibility of their occurrence may give rise to grave errors of diagnosis.

4. Quinine eruptions constitute an essentially polymorphous eruption which, probably, may take on almost every form of dermatitis. The only forms which have been noted, up to the present time, are, in the order of their frequency; erythema, roseola, purpura, urticaria, eczema, pemphigus.

5. The elimination of quinine by the skin explains the mode of production of five of these categories; purpura may have its source in the action of the alkaloid upon composition of the blood, and also upon the tissues, notably upon the capillaries.

6. It is quite impossible, in the present state of our knowledge, to say why the eruptions affect different forms in different individuals.

7. The influence of temperament, of age, of sex, of medicinal doses, of cold, of heat and humid cold, of malaria, etc., is more than doubtful.

8. Alcohol, injected simultaneously with quinine preparations, would appear, in certain cases, to favor the development of the eruptions.

9. Individual susceptibility and a peculiar idiosyncrasy are the only really indisputable causes of the affections.

10. This susceptibility becomes more intense when the individual has once undergone an attack.

11. Quinine eruptions are not grave in character.

12. The treatment, as simple as the prognosis is benign, consists entirely in the removal of the exciting cause and

the employment of emollients.—*Jour. Cut. and Ven. Diseases.*

SURGERY.

CASE OF CONCUSSION AND INFLAMMATION OF SPINAL CORD FROM GUNSHOT WOUND OF BACK. By Walter Edmunds, M.D., F.R.C.S., in *Brain.*

On October 29, 1883, A.B., aged 19, was shot in the back; he fell immediately, and had to be carried out of action. The surgeon who first examined the case reported, "he was found to be suffering from a gunshot wound, the projectile, apparently a large slug, having entered near the inferior angle of the right scapula; the wound was large, its edges being inverted, contused and irregular. A careful examination was made, but the finger failed to discover any foreign body, the projectile having taken a tortuous course toward the dorsal vertebræ, where it is probably lodged. There is little doubt that the spinal cord has been severely injured, for there is complete paralysis below the seat of injury."

Patient was sent home, and on coming under our observation (Nov. 25th), the wound was seen to be on the level of the fifth dorsal spine, and about an inch to its right. Probe would only enter about half an inch. He was completely paraplegic, and without any sensation below the level of the wound. No control over bladder or rectum. Both arms very weak, the right weaker than the left. Some cystitis. A bedsore over sacrum. He died March 5, 1884, four and a half months after receiving the wound.

At autopsy the bullet wound had healed; no fracture or indication of fracture, or dislocation of vertebra could be found, nor any track of the projectile. Theca vertebralis intact. The cord was seen to be much atrophied and softened about the level of the wound. The bullet could not be found, although carefully looked for. Kidneys hypertrophied, four or five ounces of serum in pericardium.

On hardening the cord in Müller's fluid, it was seen that there was universal myelitis and softening for about two inches opposite the wound, this gradually passing below into the sclerosis of the lateral and anterior pyramidal tracts, and above into sclerosis of the posterior median columns.

There was no indication of hemorrhage, either external to or into the substance of the cord. Its surface was uninjured.

Remarks.—Although the surgeon who first examined the case was no doubt justified in his opinion, the subsequent progress of the case ought to have thrown some doubt on the diagnosis.

The length of time the patient survived (4½ months) must be the most exceptional in fracture of vertebra with direct injury to the cord.

Liddell, (1) speaking from an experience acquired in the American Civil War, says: "Leaving out of calculation such fractures as involve the spinous processes alone, the writer has never seen a case of gunshot fracture of a vertebra get well," and he might add that he had never seen life prolonged for a month after the infliction of that injury.

And further, in a fracture of bone with the bullet imbedded in it, it would be surprising that the sinus should completely close, and without the discharge of spicules of any bone.

Somewhat similar cases are to be found on record. Dr. Charlton Bastian (2) relates the case of a man who fell in his sleep from the top of a haystack 25 feet high. His legs were at once paralyzed, and after suffering from spinal symptoms for six months, he died. At the post mortem examination no changes whatever were seen, for the important changes which did exist in the cord were only rendered visible by keeping it for some days in a hardening solution.

Sir William Gull records a case due to an injury to the back of the neck, terminating fatally in thirty-four hours. At the post mortem examination no fracture or dislocation was found, but a contusion of the cord at the level of the 4th and 5th cervical vertebræ. (3)

Leyden(4) mentions a case which he saw, in which concussion of the spine causing paralysis, proved fatal in five days. At the post mortem nothing whatever could be found abnormal, either microscopically or macroscopically.

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1. Liddell, "On Injuries of the Spine, Including Concussion of the Spinal Cord," Amer. Jour. of Med. Sciences, 1864.

2. Transactions of Med-Chir. Society, vol. l., 1867.

3. Guy's Hospital Reports, 1858.

4. 'Klinik der Rückenmarks-Krankheiten,' vol. ii., 1875.

In conclusion, it may be remarked that the myelitis which was found in this case could not have accounted for the paraplegia which immediately followed the injury. The term "concussion" has been used to indicate the cause of this.

CHLOROFORM-WATER.—This application which is much employed in Paris, is prepared as follows. An excess of chloroform is poured into a bottle three parts filled with distilled water, and, after repeated shaking, the mixture is allowed to stand until the extra chloroform is deposited and the liquid quite clear. The transparent portion is then to be removed by a siphon, forming a saturated solution of chloroform, ten grams to the litre. Applied on compresses, either in its pure state or diluted with half its weight of water, it is found to relieve superficial pains, but when these are situated more deeply, a very hot linseed poultice is applied, which is afterwards replaced by the compress of chloroform-water. Active revulsion is thus produced which relieves the pain. Associated with a weak solution of opium, it relieves vague dental pain; and with syrup of morphia is successfully given internally for various forms of malaise from indigestion, such as gapings, eructations, sense of weight, etc. It is also useful as a palliative in cancer of the stomach.—*Medical Times.*

EXTIRPATION OF CANCER OF THE RECTUM.—In a paper on the 'Statistics and Operative Treatment of Cancer of the Rectum' (*Archiv für Klinische Chirurgie*, Band xxix., Heft 3), Dr. G. Heuck, of Heidelberg, gives reports of 43 cases of this affection treated during a period of six years by Professor Czerny. In two only of these cases were the patients under the age of thirty years and in twenty cases the disease commenced between the ages of forty and sixty years. Of the forty-three patients, thirty were males and thirteen females. In his remarks on the structure and extent of the cancerous growths in these cases, the author points out as a fact of importance with regard to practice that cancer of the rectum, like cancer of the stomach, presents itself in one or other of two very distinct forms. In one, the new growth commences in the superficial layers of the mucous membrane, ulcerates early, and does not until a late period involve the whole thickness of the wall of the rectum. In the second, and less frequent form, the carcinomatous deposit extends below the inner surface of the rectum, and the mucous membrane remains intact for a long time. This latter form of the disease is much more diffused than the first mentioned and usually in a sharply defined form, and in most instances causes extreme stenosis.

In one only of the forty-three cases recorded in this paper was there secondary cancerous disease of the inguinal lymphatic glands; and in this case the cancer had extended beyond the rectum and involved the skin of the perinæum. The author points out that the lymphatics of the rectum pass to glands situated within the pelvis; and he disagrees with the statement of Winiwarter that when, in cases of cancer of rectum, the inguinal glands are in a normal condition, the pelvic glands likewise remain unaffected.

In twenty-five of these cases a radical operation was performed, and the diseased portion of rectum excised. The operation itself was the cause of death in one only of these cases, although the peritoneal cavity was opened in eleven patients. Of nine patients who, up to the time of the publication of this paper, remained free from relapse, two had survived the operation for longer than four years, one was alive after an interval of three years, and nine months, three after intervals of at least two years, one at the end of twelve months, and two at the end of six months. In those cases where the patients were alive three years or more after the date of the operation, the cure, the author holds, may be considered as permanent. According to Volkmann, however, freedom from relapse for even four years is not sufficient to ensure for the patient a permanent cure; and a few cases have been reported by this surgeon of return of cancer in the rectum after intervals of five and six years from the performance of extirpation. In most of Czerny's cases in which there has been no relapse, the cancerous disease had lasted for some time before the operation; in one case for four years, in three cases for three years, and in three other cases for two years. Relapse occured in fifteen of the twenty-five cases, sixty per cent. In every one of these cases the disease returned within twelve months after the operation. The average duration of the disease from its reappearance to the death of the patient in the fifteen cases was 11·7 months.

The operation proceeding for the removal of cancer of the rectum must vary in different cases according to the seat and extent of the new growth. Dr. Heuck mentions three operations, the first of which has most frequently to be performed; extirpation of a more or less considerable portion of the lower part of the rectum over the whole of its circumference, the margin of the anus being removed, or a narrow strip of mucous membrane being left just above the anus; removal of an isolated tumor or small cancerous ulcer; circular resection of the rectum in its upper part and apposition of the two divided portions of intestine by circular suture. Dr. Heuck is opposed, on account of the increased risk of relapse, to the practice of leaving a strip of mucous membrane below the wound, even if this membrane be apparently quite sound. The edge of the divided gut should always, if it be possible, be fixed by sutures to the edge of divided skin, in order to prevent fæcal matter from coming into contact with the surface of the wound, and also to guard against subsequent stenosis. In six of the eleven cases in which the peritoneal cavity was opened, the rent in the peritoneum was at once closed by sutures, whilst in the remaining cases this rent was left open. Wounding of the peritoneum, it is stated, is not really attended with much danger, if care be taken, by stitching the remaining portion of the gut to the external skin, to prevent fæcal matter from coming into contact with the raw surface of the wound.

The only contra-indications to extirpation of cancerous disease of the rectum are stated by Dr. Heuck to be adhesion of the tumor to parts surrounding the rectum, extreme debility of the patient, and the presence of secondary growths in internal organs.

In some editorial remarks on Dr. Heuck's paper in the American *Medical News* for Oct. 13, 1883, if is stated that to the 25 cases in which extirpation had been performed by Czerny there may be added 108 other cases which have been put on record. 'Of the entire number—223,' it is stated, '180 recovered, and 43, or 19·3 per cent., died. Of 142 in which the final results is known, 64 remained well for periods varying from two months to ten years, and 78, or 54·9 per cent., recovered. The cases being omitted in which the recovery at the date of the last report has lasted only from two or sixteen months, there are thirty-five cases in which there had been no return of the disease for two years and upwards, thirteen, indeed, having remained well for between five and ten years, so that 157 per cent. of the entire 223 were in all probability permanent cures.' If three years and upwards be regarded as still better respresenting a probable immunity from recurrence, the twenty-eight cases which come under this category show 12·5 per cent. of cures, while the twenty-one cases which represent four years and upwards make the number of cures 9.4 per cent.—*The London Medical Record.*

CEREBRAL PRESSURE. — Adamkiewicz (*Silzungsber. der Akad. d. Wissensch. zu Wien*, 1883) has had the opportunity of observing a tumor of the cord which occupied the greater portion of the left lateral column between the 5th and 7th cervical roots, and compressed the anterior horn to a marked degree. No symptoms had been noted during life, however, which gave a clue to such a lesion. This case formed the starting-point of investigations by the author concerning cerebral pressure on the one hand, and the question of compressibility of nervous masses on the other. The first point only is discussed in the present paper. He concludes that a pathological increase in the pressure of the cerebro-spinal fluid (in other words in the "cerebral pressure") does not exist. This view is in complete opposition with the generally accepted theories on the influence of agents which diminish the intra-cranial space; but is supported by a series of experiments too considerable for us to adduce or criticise here.

The author describes the phenomena usually ascribed to cerebral pressure being due to cerebral irritation.—*Brain.*

THE EFFECTS OF LESIONS OF THE CEREBRAL HEMISPHERES.—The following is an abstract of a paper on this subject recently presented to the Royal Society (*Proceedings Royal Society*, xxxvi. 229), and which contains a detailed account of a series of observations on the effects of localized lesions of the brain of monkeys, made partly by Drs. Ferrier and Yeo, and partly by Dr. Ferrier alone.

The operations were performed under anæsthetics, and according to the rules and methods of antiseptic surgery.

The experiments are illustrated by photographs, showing the position and extent of the lesions and general condition of the brains, together with sun-prints and microphotographs of sections of the brain and spinal cord, showing the structures primarily involved or secondarily degenerated.

As the paper is mainly an anatomical description of the lesions delineated and record of the effects produced, it scarcely admits of condensation in the form of an abstract. The lesions are classified according to their position in the occipito-angular, temporal, Rolandic, frontal, and hippocampal regions respectively.

Among the more important results arrived at are the following:

Lesions of the occipito-angular region (occipital lobes and angular gyri) cause affections of vision, without affections of the other sensory faculties or motor powers.

The only lesion which causes complete and permanent loss of vision in both eyes is total destruction of the occipital lobes and angular gyri on both sides.

Complete extirpation of both angular gyri causes for a time total blindness, succeeded by lasting visual defect in both eyes.

Unilateral destruction of the cortex of the angular gyrus causes temporary abolition or impairment of vision in the opposite eye—not of a hemiopic character.

Deep incisions may be made in both occipital lobes at the same time, or the greater portion of one or both occipital lobes at the same time may be removed without any appreciable impairment of vision.

Destruction of the occipital lobe and angular gyrus on one side causes temporary amblyopia of the opposite eye and homonymous hemianopia of both eyes, towards the side opposite the lesion.

As in none of the cases recorded, either of partial unilateral or bilateral destruction of the occipito-angular region, were the amblyopic or hemianopic symptoms permanent, it is concluded that vision is possible with both eyes if only portions of the visual centres remain intact on both sides.

Destruction of the superior temporo-sphenoidal convolution on both sides causes complete and permanent loss of hearing, without other sensory or motor defect. Hearing is not impaired by lesions of any other part of the temporal lobe.

Destructive lesions of the Rolandic zone (convolutions bounding on the fissure of Rolando) cause motor paralysis, without loss of sensation, limited (monoplegia) or general (hemiplegia), according to the position and extent of the lesion.

Lesions of this region are followed by descending degeneration of the pyramidal tracts of the spinal cord.

Lesions of the frontal region vary according as the post-frontal (base of the frontal convolutions) or pre-frontal (anterior two-thirds of the frontal convolutions) region.

Lesions of the pre-frontal regions alone do not produce any discoverable physiological symptoms.

Lesions of the post-frontal regions cause temporary paralysis of the lateral movements of the head and eyes.

As the symptoms are only temporary so long as any portions of the frontal lobes remain intact, it is concluded that the post-frontal and pre-frontal regions have essentially the same physiological signification, and that portions only of the frontal lobes are sufficient for the exercise of their functions.

Lesions of the frontal lobes are followed by descending degeneration of the mesially situated tracts of the foot of the crus cerebri and corresponding fibres of the internal capsule, as seen in transverse sections. The ultimate destination of these tracts is uncertain. They cannot be traced in the anterior pyramids.

Lesions entirely destroying the hippocampal region (the hippocampus major and gyrus hippocampi) and neighboring inferior temporo-sphenoidal region (without implication of the crus cerebri, basal ganglia, or internal capsule) cause complete anæsthesia—cutaneous, mucous, muscular—of the opposite side of the body, without motor paralysis.

The degree of impairment of tactile sensibility in those cases where it was not entirely abolished, is in proportion to the amount of destruction of the hippocampal region.

Lesions of the cornu ammonis alone, or gyrus hippocampi alone, do not cause permanent impairment of tactile sensibility. The duration of the effects of total destruction of the hippocampal region has not been determined.

No impairment of tactile sensibility has been observed in connection with any of the other cerebral lesions described.—*Brain.*

BACKWARD TTACTION IN CARIES OF THE SPINE. By Chas. F. Stillman, M.D., New York, in *Archives of Pediatrics.*

Dr. Stillman prefaced his lecture by remarking that all the methods of mechanical treatment of caries of the spine were based upon three established principles, viz.: First, simple *fixation.* Second, Symmetrical traction (vertical and horizontal). Third, backward traction. The appliances of the first class (fixation) attempted to enforce rest of the spine by enclosing the trunk in splints of leather or other firm material, or by long steel strips placed upon either side of the spine posteriorly, and held in position by girths or buckled straps. This method opposed the material strength of the splint to the flexibility of the spinal column, and, if sufficiently strong, would hold the spine firmly, but did not attempt to remedy deformity, or produce extension of the diseased part. Charts were exhibited, illustrating the splint constructed upon this plan.

The appliances of the second class (symmetrical traction, *i.e.*, traction exerted upon the spine so as to make extension of all parts alike, differing in this respect from backward traction, which produces extension of the anterior columns only) were also exhibited.

He stated that symmetrical traction in caries of the spine was exerted in two directions, viz.: First, horizontal, which is the principle underlying the various traction beds and frames, which were formerly used and are now almost entirely discarded, and second, vertical. The latter is the principle upon which the practice of suspension is founded, and it is the practice to enclose the body in a plaster jacket (Sayre) while suspended, in order to imprison and secure the amount of extension thus produced, but the doctor maintained that the extension produced by the suspension was lost when the suspension ceased, because the spine being flexible, was not embraced throughout sufficient of its extent, unless a jury mast were added to the jacket, in which case whatever extension was produced by the suspension would be held by the splint.

If the jury mast were not used, the plaster jacket becomes a fixation splint, but is more effective than the splints of the fixation class, because it holds the spine in the improved curves which were produced by the suspension.

There is, however, no possibility of adjustment or reduction of deformity unless the splint be removed and reapplied. He also stated that symmetrical traction might be extended *locally*, by dividing the jacket and connecting the segments by rachets, but the use of such forms of apparatus was necessarily restricted to the lumbar portion of the spine. The consideration of the third principle of mechanical treatment, viz.: backward traction, occupied the main portion of the lecture, and was fully illustrated by patients, apparatus and charts. The origin of the principle, which consists in curving the spine slightly backward, so that the bodies of the vertebra are relieved from superincumbent weight, which is transferred to the posterior processes, was ascribed to Dr. H. G. Davis, although the first effective instrument for utilizing the principle was devised by Dr. C. F. Taylor.

A later instrument for the same purpose was invented and used by Mr. Chance, of London, and has lately been much advocated by E. Noble Smith. In all of these instruments the bending point of the spine, if the patient leans forward, was at the seat of the disease, so that it requires great strength on the part of the apparatus to successfully oppose this.

Dr. Stillman advocates a new form of lever brace which completely overcomes this tendency. If the disease be in the dorsal region, the short arm of the lever extends from the seat of the disease to the sacrum, the two being connected at the sacrum by an adjustable clamp, and together forming a V-shaped lever, which acts automatically to press out the deformity, and yet holds the child back in the erect position. The force is so graduated that if leaning forward be attempted the shorter arms press firmly over the transverse processes adjacent to the knuckle, and exerts a forward pressure which prevents the spine yielding at the seat of the disease. In no other brace known is this accomplished, and it therefore secures a much greater degree of fixation than either of the braces or splints already referred to.

If the lumbar region be involved, the short arm of the lever passes from the diseased part to the second dorsal vertebra, and the long arm from the sacrum to the second dorsal vertebra. They are sceured together by adjustable clamps at this point, and connected to the trunk by a T plate in front, which allows it to be tightly strapped to the part without exerting injurious pressure on the arms or chest, the infra-clavicular spaces and the sternum being by this method utilized as pressure points. The splints formed upon this lever plan give fixation, backward traction, and forward pressure at the seat of disease, which are the three indications necessary to success in the mechanical treatment, and when applied to a patient (several being exhibited), the effects of the brace could not be altered by the position of the patient, as the peculiar action of the lever was compensatory.

The principle was illustrated by placing a patient with a well marked dorsal kyphos face upward upon a padded table, so that the edge of the table pressed upon the transverse processes of the kyphos, the head and upper extremities being allowed to hang over the edge. In this manner backward traction was induced, which caused extension at the seat of disease, and the table pressing upon the kyphos at the same time, the result was seen in a diminution of the knuckle angle, the result attained by the brace, which is founded on the physiological principle demonstrated by this method.

The superincumbent weight, which causes the knuckle to form, is thus used as a traction agent for reduction, and corresponds to the long arm of the lever, while the forward pressure of the table corresponds to the short arm of the lever, the power of the brace depending upon the angle at which these arms of the lever are attached to each other, so that its effects may be varied from that of a simple fixation brace of the first class to a lever brace of any desired power.

CONTRIBUTION TO THE STUDY OF THE DIAGNOSIS OF ULCERATIONS OF THE TONGUE.—Dr. Ch. Du Perrier *Thèse de Paris*, 1883. The objective signs ascribed by authorities to the different species of ulcerations of the tongue are so variable that, in the majority of cases, a diagnosis cannot be established without recourse to the history and an appreciation of the diathetic state of the patients.

There are a number of circumstances in which the co-existence in the same patient of several diatheses renders the nature of the lingual ulceration altogether ambiguous. Thus there are found hybrid varieties showing mixed characters from the multiple contitutional states to which the patient is subject.

Lingual ulcerations, though rare as a diathetic manifestion, are not necessarily specific. Among the tuberculous, notably, an ulceration of a simple inflammatory nature, traumatic or medicamentous, may manifest itself and be cured; on the contrary, the true tubercular ulcerations do not appear to be curable.

In the case of hybrid ulcerations occurring among tubercular syphilitics or cancerous syphilitics, not exhibiting characteristics sufficiently precise as to admit of the establishment of a positive diagnosis, it would be legitimate to institute a specific treatment as a test. But it is necessary that this be done with proper management, and it should be suspended so soon as the experimenter is enlightened by the failure of the treatment; for it seems that the use of mercury and iodide of potassium rapidly aggravates the condition of non-specific ulcerations, and impresses upon them a tendency to phagedenism.—*Jour. Cut. and Ven. Diseases.*

Bibliography.

ELEMENTS OF PHARMACY, MATERIA MEDICA AND THERAPEUTICS. (¹)

The second edition of Whitla's manual, Elements of Pharmacy, Materia Medica and Therapeutics, has just made its appearance. The work is divided into six parts. Part I includes extemporaneous pharmacy, wherein he offers some practical points in regard to excipients in pill masses, which should not always be left to the option of the pharmacist. He cautions us as to the use of steel knives in the preparation of ointments with the alkaloids or with acids, especially with the acid nitrate of mercury, red precipitate, or yellow oxide of mercury ointments, which are ruined by the touch of iron. He lays special stress on the uniformity of ointments, saying that it is not at all an uncommon thing to see sores irritated and eyes inflamed by the very remedies prescribed to soothe them. Part II treats of materia medica, and the subjects are ar-

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1. Elements of Pharmacy, Materia Medica and Therapeutics, by Wm. Whitla, M. D., (Q. U. I.) Second Edition. London, Henry Renshaw; Cincinnati, Robert Clarke & Co.

ranged alphabetically. Part III includes the therapeutical action of drugs, to which are added valuable receipts in palatable form. The antidotes are given in connection with the description of poisonous remedies. Of the non-official remedies in Part IV we find enumerated the latest antiseptics, antipyretics, anesthetics and teniacides. In Part V are given the methods by which medicines are introduced into the blood, their posology and incompatibility. Part VI treats of the pharmacopœial reactions and tests, and lastly gives tables of weights and measures.

This work is probably intended rather for reference than as as a text book. It is perhaps not equal to the larger works of American writers, but on account of its brevity and practical bearing will be of special value to the busy practitioner and student, and is doubtless a safe guide in those departments whereof it deals. H. W.

A TREATISE ON DISEASES OF THE EYE. (1)

I beg to call the attention of the readers of the LANCET AND CLINIC to an error in printing in the last issue of May 10th. Adolph *Alt* is the author of the book, not Adolph Arlt. TANGEMAN.

OHIO STATE MEDICAL SOCIETY. — The thirty-ninth annual meeting of the Ohio State Medical Society will be held at Columbus, Ohio, June 10th, 11th and 12th, 1884.

Order of Business. — The sessions of the Society will be held at Lyndon Hall, corner of Long and Fourth streets. First session at 2:00 P.M., June 10.

The order of business for each session will be:

1. Reading of minutes.
2. Report of Committee of Arrangements. (First session only.)
3. President's Address. (Afternoon of second day.)
4. Election of officers. (Afternoon of second day.)
5. Selection of a place for the next Meeting. (Afternoon of second day.)
6. Business which requires early consideration.
7. Annnal Reports (first session only) of:
    a. Treasurer and Librarian. T. W. Jones.
    b. Secretary. G. A. Collamore.
8. Reports of Standing Committees:
    a. Committee on Finance.
    b. Committee on Ethics. W. J. Scott, Chairman.
    c. Committee on Publication. J. F. Baldwin, Chairman.
    d. Committee on Legislation. D. N. Kinsman, Chairman.
    e. Committee on Admissions.
9. Reports from Delegates to the American Medical Association and other Societies.
10. Written Communications on medical subjects:
    a. "Report on Tuberculosis." D. N. Kinsman, M.D., Columbus.
    b. "Report on Drinking-Water." W. J. Scott, M.D., Cleveland.
    c. "The Necessity for Radical Operation in Empyemia." S. F. Forbes, M.D., Toledo.
    d. "Diseases of the Skin due to Derangements of the Nervous System." W. D. Corlet, M.D., Cleveland.
    e. "Changes of Disease Types in Central Ohio." W. Morrow Beach, M.D., London.
    f. "The Pupils as a Factor in Diagnosis and Etiology." H. P. Allen, M.D., Columbus.
    g. "Diagnosis of Continued Fever." A. E. Foltz, M.D., Akron.
    h. "Irritation of the Prostate." R. Harvey Reed, M.D., Mansfield.
    i. "Pharmaceutical Preparations." T. H. Phillips, M.D., Canton.
    k. "The Races." R. Frailey Wark, M.D., Ontario.
    l. "The Treatment of Varicose Veins." J. W. Craig, M.D.. Mansfield.
    m. "The Use of Hot Water in the Management of Punctured, Lacerated and Contused Wounds." H. W. Sykes, M.D., Plymouth.
    n. "Nervous Disorders." D. A. Morse, M.D., Oxford.
    o. "Report on Milk-Sickness." W. Morrow Beach, M. D., London.
    x. Volunteer Papers.
11. Oral Communications.
12. New Business.
13. Unfinished and Miscellaneous Business.
14. Adjournment.

Special Notice. — The following Resolution will be offered during the session, by H. J. Sharp, M.D., of London, who will support the same by a written paper;

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1. By Adolph *Alt.* First Edition,

Resolved, That the public good and the higher interests of the medical profession would be promoted by the establishment of a State Board of Medical Examiners; that such Board shall be independent of all medical schools, and be empowered to examine and pass upon the moral fitness and literary and medical attainments of all applicants for admission to the practice of medicine, and to grant license to practice medicine in the State of Ohio to such only as shall have passed a satisfactory examination before said Board; that medical schools shall continue their functions of teaching and conferring degrees of M.D. only, with no powers whatever to grant licenses to their graduates, admitting them to the practice of medicine.

Hotels. — Neil House, $3.00 per day; American House, Park Hotel, and U. S. Hotel, $2.00 per day.

Railroads. — The following railroads will *return* members, who have paid full fare to Columbus, at *one cent per mile*, on presentation of certificate to be obtained of the Secretary, *at the meeting*: tickets good to June 14th, viz.: Columbus, Hocking Valley & Toledo; Ohio Central; C. C. C. & I.; I. B. & W.; C. A. & C.; Scioto Valley.

The following railroads will sell round-trip tickets at *two cents per mile*, *each way* on presentation to local ticket agents of proper credentials, which must be obtained before leaving home; the Secretary will furnish them on application, viz.: Baltimore & Ohio, P. C. & St. L.

C. P. Landon, *Pres.*, G. A. Collamore, *Sec'y.*
M. F. Lee, *Ass't Sec'y.*

Standing Committees.—(The member first named is elected for five years, the second for four years, etc.)

Finance:—(Vacancy), Davis Halderman, Geo. Mitchell, S. S. Thorn, R. P. Evans.

Ethics:—W. J. Scott, John A. Murphy, W. W. Jones, H. Culbertson, (*Vacancy*).

Publication:—J. F. Baldwin, J. C. Culbertson, J. H. Lowman, W. H. H. Nash, Jos. Waggoner (and the President and Secretary of the Society, *ex-officio*).

Medical Legistation:—D. N. Kinsman, Enoch Pearce, Toland Jones, H. J. Donahoe, A. H. Brundage.

Admission and Medical Societies:—(*Vacancy*), J. B. Thompson, J. W. Beach, P. P. Pomerine, N. H. Sidwell.

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CORRESPONDENCE FROM PHYSICIANS PROMPTLY ANSWERED.

Original Articles.

RECURRENT IRITIS, AND ITS RELATIONS TO CHOROIDAL DISEASE.

A paper read before the Philadelphia County Medical Society, March 12, 1884,

By S. D. Risley, A. M., M. D.,
Assistant Ophthalmic Surgeon, Hospital of the University of Pennsylvania.

The general features of iritis are so well understood that I shall not delay you in order to portray its usual manifestations, but enter at once upon the study of a small group of cases which shall serve me to illustrate the subsequent history of many eyes, once the subject of acute iritis. The cases are selected not because they present unusual symptoms or a novel history, but rather because they furnish clear cut examples of a frequently recurring form of disease, and, I believe, throw some light on the pathogeny of chronic iritis. They furthermore illustrate the serious importance of the disease, and the value of certain methods of treatment. No form of eye disease numbers a larger percentage of blind people among its victims than those insidious, but none the less destructive processes which follow in the train of the acute plastic inflammations of the iris. It has long been observed that eyes, once the subject of this disease, are liable to progressive deterioration of vision, and often suffer from acute relapses of the iritic inflammation. This liability to recurrence seemed to depend upon the presence of attachments between the pupillary margin of the iris and the anterior capsule of the lens, since it was observed that cases which recovered, having escaped the formation of posterior synechia, but rarely showed such tendency.

Von Graefe in 1856 (Arch. f. Ophth., bd. ii, abt. ii, s. 202) published his important communication on "Iridectomy as a Means of Treating Chronic Iritis and Irido-choroiditis," in which he asserts that "*the principal cause of the recurrences of iritis is the existence of synechia, especially when broad and inextensible.*" Again, "*the occlusion of the pupil is the point from which the further complications proceed, especially chronic choroiditis.*" The method of treating acute iritis by mydriatics, at that time insisted on by him, had for its principal motive the prevention of adhesions of the iris to the lens capsule, and up to the present time it is the universally accepted treatment. The baneful influence which he ascribed to the existence of synechia seemed so thoroughly in harmony with the clinical features of iritis that for many years its entire correctness was accepted without a question. Schweigger, however, (Handbook of Opth., Am. Edition, p. 335, Phil., 1878) in commenting on relapsing iritis, employs the following language: "Such patients are for an indeterminate length of time, at intervals of a month, or longer, attacked more or less severely with iritis. It is not strange that such persons generally have a number of iritic adhesions; and still this fact is the only ground upon which is based the generally accepted assertion that these adhesions are the cause of the relapses." In substantiation of this statement he cites a fact within the range of experience of all ophthalmologists that many persons, notwithstanding the presence of numerous synechia, do not suffer from relapsing iritis, and that, on the other hand, other cases do thus suffer, who have been properly treated from the beginning with atropine, in which no synechia remain." F. Schnabel (Knapp's Archives Ophth. and Otol.) has also called in question the truth of Graefe's first proposition, in an elaborate paper on the "Accompanying and Consecutive Diseases of Iritis." Experience, however, has established upon so firm a foundation the early employment of mydriatics that we should accept only after the closest scrutiny any report which would change our notions regarding the hurtfulness of iritic adhesions. It is important, however, that our eyes should not be closed to other conditions which may stand in a causative relation to recurrent iritis. Any doctrine accepted without question antagonizes further progress. One object in presenting this paper is to set forth the probability that *too much importance has, in some instances at least, been given to the existing posterior synechia*, since the plastic iritis resulting in their formation is itself often consecutive, and the subsequent eye history was probably but a continuance of the primary disease, the recurring attacks of acute iritic inflammation being only the extension forwards of acute exacerbations primarily affecting the structures posterior to the iris, most probably the ciliary body and the choroid. The following case will illustrate the truth of this proposition.

CASE I. Mrs. H., æt. 63, in good health, although from gouty ancestry, consulted me in April

1879 for failing sight and inability to use her eyes for near work without pain. V.= $\frac{20}{XL}$ in each eye. A weak concave cylinder was very positively selected with its axis at 180°, but no smaller letters could be seen. She complained of a fine web or veil before her eyes, dotted with numerous fine dark points Externally the eyes appeared normal. except some enlargement of the anterior perforating vessels. The field was perfect. and there was no increase of tension. The ophthalmoscope revealed only a hazy view of the eye ground. The nerve was normal in color, and there was no derangement of the central retinal circulation ; the visible choroid showed no change. The cornea and lens were transparent, but the anterior part of the vitreous body was hazy. and a magnifying glass showed innumerable fine dark points as viewed by transmitted light. No web could be made out, and the dust-like particles were almost fixed. The condition of both eyes was similar.

There was no marked change after four months, during which time she had been quite unable to use her eyes The following August, after a drive in the park facing the western sun on a hot afternoon, she returned home with much discomfort in o. d., which during the night ripened into severe pain, preventing sleep. The following morning. Sept. 1, the eye was red, painful and extremely sensitive to light. Sept. 2d the eye was some better and she ventured out of doors, the day being cloudy, and came to my office. There was still marked ciliary injection. ball tender to the touch in the ciliary region. T. n. V. diminished, and mydriasis revealed a broad synechia attaching the lower pupillary margin to the capsule. She proved remarkably susceptible to all the mydriatics, so that I was compelled to use them with great caution to prevent constitutional poisoning. The eye rapidly regained its former condition, but the adhesion remained throughout the subsequent history of the case. Through the following autumn and winter Mrs. H. had repeated attacks of inflammation resulting in the formation of delicate synechiæ ; but profiting by her first experience the mydriatic was applied at the very outset so they were usually torn asunder, leaving a minute pigment spot on the anterior capsule at the site of the attachment. It is worthy of remark that, however early in the attack the mydriatic was used, this attachment was, with a few exceptions, found present. These attacks occurred quite indifferently in either eye, often in both simultaneously. rarely more than ten to fifteen days elapsing without an out and out attack of inflammation, or a flushing of the ciliary region. These exacerbations were determined by various causes, e. g. fatigue, a shopping expedition, any attempt at near work, or a visit to the laundry or kitchen, resulted in an iritic attack if persisted in.

Under the internal administration of guiacum and iodide of potassium and the free use of the Bedford water, the attacks gradually grew less frequent and severe. 1880 was passed with only a few exacerbations, but she purchased the immunity from attack by the most assiduous care in the avoidance of those influences which experience had taught her to dread. The ball, however, remained tender, and her vision fluctuated about $\frac{20}{XL}$—sometimes much less than this, at other times somewhat better. On one occasion, without correcting glass it is noted as V = $\frac{20}{XXV}$ in each.

In Oct. 1881, while sitting in church, she had marked photopsies which were followed in a few hours by an unusually severe onset of binocular iritis which resulted in firm bands of adhesion in both eyes, notwithstanding the employment of local depletion and of atropia as vigorously as she could bear it. The eye once more lapsed into its former condition, with an additional adhesion in O. D. and a firm band in O. S. There was after this attack a marked haziness of the vitreous humor. Her former experience was now repeated. There were frequent recurrences of the iritic trouble, so that she lived in constant dread, and was greatly discouraged. Various therapeutic measures were adopted only to be relinquished as of no avail. Iridectomy was now suggested as a probable means of permanently removing the tendency to recurrence. Sulphate of eserine had been used at different times, but only with the result of adding acute periodical neuralgia to her present distress. At this time I chanced to be interested in a series of clinical observations, at the University hospital. on the effect of this drug over the nutrition of eyes lost by past injury or former inflammation but now subject to subacute exacerbations, and setting up irritibility of the fellow eye. I had noticed that, while solutions not stronger than 1 or 2 grs. to the f. oz. would cause great pain and thus prevent its use, that weaker solutions could be used without difficulty, and with the effect of rapidly reducing the redness of the chronically inflamed eye, and with it the irritability of its fellow. A very striking result had been obtained in a case then and still under observation. A young woman at work in a carpet mill, came to the clinic, having been advised to have her left eye removed to which she strenuously objected. There was still marked sympathetic irritation, depending upon the irritable and blind left eye. The cornea of o. s. was opaque, still vascular, and becoming staphylomatous at the center. where was an adherent cicatrix at the site of a perforating ulcer occurring in childhood. The eye was painful, T +, and the sunlight was very painful to the right eye. She could not come into the hospital for immediate enucleation and was very loth to submit to the operation at all ; so she received a solution of sulphate of eserine, ⅛gr. to f. ℥, to be used in the blind eye three times in the twenty-four hours and instructed to report daily. All the symptoms rapidly subsided. The drops were used for many weeks, and although nearly two years have elapsed, she has had no serious return of the symptoms, notwithstanding the presence on one occasion of a small foreign body in the center of the former corneal staphyloma, which had been allowed to remain many days. Without room for question the nutrition of this eye had been greatly improved under the use of eserine. With this and other examples in mind Mrs. S was directed an eserine solution .002 gm. 10 cc., to be used twice daily. In a short time after each instillation she had a throbbing in her eyeballs and a sensation which she described as a starting forward of the eyeballs, which then appeared to recede to their proper bed. There was also a slight twitching of the lids, but no pain. A month later $V. = \frac{20}{XX}$ with her correcting glasses on each eye. She had not even been threatened by her old enemy, and was already gaining confidence in the use of her eyes at near work. Four months later, after a long and fatigueing railroad journey, she had a mild attack in Cincinnati, but she had not neglected her homatropine solution which through her long trial she had used with the earliest symptoms of an attack. This was freely instilled, and in twenty-four hours the eyes were once more quiet, and she returned to the eserine. After a lapse of two years there has been no recurrence, notwithstanding the existence of firm inextensible synechia in both eyes. The vitreous cleared up so that no trace of the former trouble could be detected. The choroidal margin at the optic nerve showed some increased pigment absorption, but no other change was noted. The anterior perforating vessels also assumed their normal condition.

I am convinced that had we the opportunity more frequently to study carefully iritic eyes before the onset of the acute and painful trouble, we should find that the attack had been preceded by an interval of dim or weak sight, with disease of the choroid or retina or both. In the case of Mrs. H. I had the opportunity to observe first the haziness of the vitreous body, and to follow subsequently the painful history of relapsing iritis extending over more than three years. These attacks were invariably preceded and accompanied by increased dimness of sight due to increased opacity of the vitreous humor, as I had repeated occasion to witness. I did not hesitate to diagnosticate disease of the ciliary region of the choroid tract, notwithstanding the fact that I could discover no change in the choroid as far forward as I could study it with the ophthalmoscope. I was, however, borne out in this by the fact of the ciliary tenderness which persisted throughout, by the dilatation of the anterior perforating vessels, and by the material poured out at each exacerbation into the vitreous. This opinion was strengthened, furthermore, by the inability to use the eyes at a near point.

The opinion that iritis is often secondary to choroiditis or cyclitis receives confirmation in the history of the following case :

Case 2. W. F. æt. 40, engineer on coastline steamer, came to eye clinic of the University Hospital in April, 1878, with commencing iritis. A month before V. in O.D. had failed and he had a floating web before it. The iris was discolored and he was suffering from great pain and dread of light. The pupil, however, dilated large medium under atropine, and the vitreous was filled with large grayish webs and black masses, which floated freely about with the movements of the eye. V. = O.D. counts fingers. In O.S. $\frac{20}{XL}$ He gave a clear syphilitic history and was just recovering from mucous patches in the mouth. He was admitted to the wards of the hospital and after a tedious treatment finally recovered without post. syn. and $V. = \frac{20}{C}$.

During his residence in the hospital he complained of failing V. in O. S. $V. = \frac{20}{LXIV}$ Veins of ret. large and tortuous and the retina hazy throughout. Three days later V. had sunk to $\frac{20}{LXXX}$ and the vitreous was filled with numerous floating opacities. Under mercurial inunctions these rapidly cleared up and he was discharged June 20th with O.D. V. $\frac{20}{LXIV}$ O. S. $\frac{20}{XXX}$

The following December he returned with failing V., dread of light and ciliary redness.

He remained under observation for over two years, in the mean time having repeated attacks of irritis. He carried with him a solution of atropia sulphate, which was applied as soon as he noticed any aggravation of his eye trouble, and thus prevented the formation of adhesions to the capsule. He had many more relapses of dim sight, on three separate occasions affecting the left eye also, which, however, never resulted in iritis. The patient was an intelligent man and soon learned to treat himself with much skill. He had learned that, unmolested, his attacks of increased impairment of vision, in a few days, resulted in attacks of iritis. He therefore did not wait for the attack, but began treatment at once. He would swallow a saline cathartic. instill his atropine solution, don his smoked glasses, give up all attempt at near work and quietly await results. If the attack threatened, notwithstanding these measures, he applied leeches, which he carried with him as a precautionary measure. The attacks in the left eye were ushered in by flashes of light and either a hazy retina or cloudy vitreous soon to be followed by floating opacities.

In this case there can be no question but that the recurring iritic attacks were consequent upon increase of the choroidal disease. Furthermore, the recurring attacks of iritis, both in Case 1 and 2, demonstrate the truth that relapses of iritis are not necessarily dependent upon the presence of synechia and lend support to the assertion of Schnabel (*loc cit*) that "Experience has taught me that eyes possessed of synechia are no more liable to relapses of iritis than those which have passed through an iritis without retaining any synechia."

I have been greatly interested in the retinal condition present in irido-choroiditis. In Case 2 the attacks in the left eye were attended with all the necessary manifestations for a retinitis. It is improbable that any serious disease of the choroid can exist without leading to a pathological condition of the retina, and doubtless the reverse may be true. But, it must be remembered, that any study of the eye-ground in iritis presents great difficulties, because of the almost constant presence of semi-opaque media and the great dread of light experienced by the patient. In my own experience I have been more frequently thwarted than successful in the attempt to do so. When extensive synechia are formed there is also very frequently a web-like opacity of the anterior capsule which precludes any satisfactory inspection of the tissues beyond it.

Notwithstanding these difficulties Schabel (*loc cit*) asserts that "'the ophthalmoscopic examination of individuals suffering with acute iritis revealed, no matter what the cause might have been, more frequently diffuse retinitis." He appends a history of twenty-three cases of acute iritis thus examined. Five of the cases were diagnosticated as having both retinitis and hyalitis. With reference to this group of cases, he states that "The most remarkable fact demonstrated by the foregoing table is the *almost constant existence of retinitis with acute iritis.*" This, although he acknowledges that in the vascular system of the retina (in iritis) "we do not see any remarkable changes." Among sixteen eyes having specific iritis he found only one normal retina and among ten having non-specific iritis only three.

However strongly we may feel inclined to call in question the perfect accuracy of a diagnosis of diffuse retinitis, made through a muddy vitreous humor, particularly when there are no "remarkable vascular changes" to verify the retinal complication, still it must be acknowledged that it is comparatively rare to find an eye affected with acute iritis that has normal sharpness of sight, or in which the media are found transparent. The existence of opacities in the vitreous are, I think, by most men, accepted as evidence of the presence of choroiditis. Schnabel (*loc cit*), however, does not accept this dictum, but insists upon ophthalmoscopic verification of the choroidal disease for a diagnosis of its presence, and insists upon primary inflammation of the vitreous itself.

In his study of twenty-three cases of acute iritis therefore he found "most frequently retinitis, comparatively seldom changes in the vitreous, and most rarely anomalies in the choroid."

The anatomical relations of the iris to the uveal tract, of which it is in fact an extension, would lead us *à priori* to anticipate a frequent connection between the diseases of the one and the other. Indeed it was hardly to be expected that an acute inflammation of the iris could be rigidly confined to that important structure, lying, as it does, in such close proximity to the ciliary body and muscle, enjoying the same blood supply. But it is equally probable that diseases affecting the choroid proper or ciliary region might also by the simple fact of continuity of tissue and blood supply attack the iris secondarily or simply by a gradual process of extension forward. That such extensions of inflammation can and do occur has I think been demonstrated by the foregoing cases. It receives further confirmation in the following case which will serve also to demonstrate the serious importance of this disease and the necessity for prompt and well directed treatment.

There can be no question of the great importance of preventing the adhesion of the iris to the capsule, for, however little influence the attachments themselves may have over the production of subsequent attacks of iritis, there can be no doubt as to their baneful influence when they by frequent repetition finally lead to exclusion of the pupil. This will be painfully demonstrated in the history of Case 3. I have already presented to the Society the early history of this case, as one of a group illustrating the history of secondary glaucoma. I now repeat it more in detail with the subsequent development.

CASE 3. Mrs. D., æt. 46, consulted me August 17th, 1881, her vision being so seriously at fault that she was lead into the consulting room by her husband.

She gave the following history: Her first eye trouble was experienced in March, 1880, when she quite accidentally discovered that vision in O.D. was impaired. The impairment steadily progressed without pain or other symptoms until the following July, when she was attacked with violent pain in the right eye which spread over the entire right side of the head. The eye was red, tender to the touch, photophobia so intense, and pain so severe that for eight days she was forced to remain in bed in a dark room. Her attendant was a homeopathist.

The impairment of vision increased rapidly after this attack. There were frequent subacute exacerbations, which simply added to her constant discomfort, and were characterized by an increased dimness of vision, exaggerated tenderness and injection of the ball. The left eye had given no sign of trouble until April, 1881, about one year from the commencement of impaired vision in the right. She then noticed diminished acuteness of vision, which steadily progressed up to the present time, but with no violent onset of inflammation. It had had, however, frequent attacks of redness, attended with perorbital pain, dread of light, soreness of the ball, etc. Mrs. D.. to all appearances was in perfect health, she had married late in life and had enjoyed uninterrupted health; had never been pregnant; the menstrual function had been regularly and painlessly performed until the present month, which she had missed, for the first time, and was now annoyed by alternating flashes of heat and perspiration.

In O. D., T. + 2. Cornea steamy, and sensibility markedly diminished, some ciliary injection, anterior chamber shallow. The iris was atrophic and fixed, pupil 2 mm. in diameter and occupied by a grayish white web, and pupillary margins of iris attached in annular synechia; only grayish red light from fundus. There was no pouching of the iris. Counts fingers only with difficulty, and as shadows, the hand being held between the eye and source of light. Field taken with candles shows perception in temporal field only.

O. S. cornea also steamy, sensibility somewhat diminished, ciliary injection, anterior chamber shallow, iris discolored, nearly annular synechia, no pouching, T. +, ? F. perfect V. = $\frac{2}{CC}$ Solution of eserine sulphate, 1 gr. fl℥ i, relieved somewhat the preorbital neuralgia, and the steaminess of the cornea diminished but there was no improvement in the vision.

On August 31st I did a broad iridectomy upward on the left side and a large sclerotomy on the right in the hope of diminishing the tension and relieving the pain, as I had no hope of restoring useful sight in the right side. The iridectomized eye recovered slowly and with considerable reaction, while the right recovered from the sclerotomy without any reaction and with entire relief of pain. Three weeks after the operation, O. D. white, Tn. free from pain, cornea transparent, pupil as before, anterior chamber normal, but, much to my surprise vision had risen to $\frac{20}{CXXIV}$ and the field, now taken on perimeter had extended in all directions. O.S. showed typical coloboma, anterior chamber normal. T. —. V. quantitative perception, cornea transparent. Vision steadily improved in both, so that three months after the operation, during which she steadily used the weak eserine solution, O. D. V. = $\frac{20}{LXVI}$, O. S. $\frac{2}{C}$, and she visited the office without a guide.

The improvement continued, notwithstanding occasional attacks of redness, the following September, 1882, one year from the date of operation, when there began an insiduous onset of serous iritis in the sclerotomized eye, with punctate deposits on Descemet's membrane, and pouching of the iris without increase of tension, and vision sunk to $\frac{15}{CC}$.

O. S. as before. On September 26th I did a broad iridectomy in O. D. upward, leaving a faultless coloboma and liberating a quantity of yellowish glutinous fluid from the posterior chamber. The eye recovered with but little reaction, and all went well until in the night following the fourth day after the operation, when she was awakened by an acute pain in the eye. The following day the anterior chamber was filled with blood. The clot was slowly absorbed, the eye softened and she gradually lost all perception of light. In a few months deposits appeared on Descemet's membrane in o. s., and without pain V. steadily failed until only merest quantitative perception remained. During these months she suffered much from the troubles associated with the menopause, which doubtless had to do with the unfortunate termination to a most interesting pathological history

The case furnishes wide scope for speculation regarding its pathogeny. Her failing vision at the outset was surely not iritis, but some disease of the deeper tunics, most probably retino-choroiditis. The following violent attack of iritis resulting in adhesions of the iris to the capsule of the lens, the subsequent subacute exacerbations, with the formation of additional bands of lymph until exclusion of the pupil was reached; then the appearance of secondary glaucoma with the increased tension of the ball, the cupping of the optic nerve, the contracted field of sight and almost total blindness; the rapid relief of all the symptoms by simply incising the angle of the anterior chamber, to be followed by widening of the field and a large restoration of sight, notwithstanding the fact that the gray film still covered the pupil, and the iritic adhesions remained, furnishes a picture of disease that can not fail to interest, although in many respects it baffles a satisfactory explanation. Had the early treatment been so conducted as to prevent the formation of the synechia until such time as the primary inflammation of the deeper tissues should subside, there is no question but that the ultimate result would have been very different. In o. s. the synechia was not annular, so that there was still some small communication between the posterior and anterior chambers. The result of the iridectomy in this eye was disappointing as compared to the brilliant though unexpected, but unfortunately temporary, result in the right eye. The rapid improvement in o. d. can probably be explained by the relief to the glaucomatous tension afforded by the sclerotomy. Notwithstanding this, the choroidal disease progressed toward an unfavorable issue. It is to be regretted that iridectomy had not been done instead of sclerotomy. The only excuse was that the eye was regarded as hopelessly blind, and the operation was designed to relieve the suffering of the patient. In the light of comparatively recent investigations the progress of the disease from the right to the left in the first instance, and the onset of serous iritis about three months after the loss of o. d., furnish an interesting history in the pathoiogy of sympathetic irritation.

If in these remarks I have succeeded in making clear that iritis is more than an inflammation of that delicate muscle, I shall feel that I have accomplished my purpose. I do not wish to assert that all cases of iritis begin in the choroidal and ciliary region. I do assert that many exist only in common with inflammation involving the deeper structures, and that their treatment, therefore, should be conducted with this fact in view. There are many cases in which no evidence of inflammation of the retina or choroid can be gained, as having preceded the attack of iritis, when, nevertheless, after the subsidence of the iritis the deeper trouble was revealed. That both may have been due to a common cause, or that the trouble simply extended backward by virtue of anatomical relations, cannot be denied. But that even in simple idiopathic iritis, attacking the iris primarily, there is also profound congestion of the entire choroidal tract, is unquestionably true, and it would be folly to deny that this congestion might under favoring conditions, e. g., dyscrasiæ, etc., pass over into a pathological state involving both choroid and retina.

SMALL DOSES FREQUENTLY REPEATED.

A Paper read before the Cincinnati Medical Society, May 13, 1884, by

JOHN L. DAVIS, M.D.

Fashion in therapeutics has wrought marked changes in half a century. Following severe depletion and depressant measures naturally came the opposite extreme in medication represented by excessive stimulation and its concomitants. And during the past twenty years, a more or less judicious combination of both plans has characterized progressive medical practice. Medicine is given in moderation; the patient is supported and nature is assisted in her efforts in his behalf. Very recently, however, the question has arisen, whether we cannot secure better results more agreeably by the administration of small doses frequently repeated, particularly in acute diseases. The advocates of minute, frequent doses claim for their method the following advantages over the usual plans of medication:—

1. The physiological action of the remedy is more quickly secured and a less amount of medicine is required.

2. The action of evanescent medicines, such as stimulants, can be made more continuous.

3. The personal peculiarities and susceptibility of patients can be better observed and consulted.

4. The medicine is more easily administered.

These are recognized as importont advantages and the only question is, Can they be obtained by giving small, frequent doses?

Ringer highly endorses, under certain circumstances, such minute doses as one-third of a grain of gray powder; one-twelfth of a grain of calomel; one-sixty-fourth of a grain of tartar emtic; two drops of tincture of assafœtida; one drop of nux vomica. These doses vary in size from one-fifth to one-thirtieth of the usual dose as given by the U. S. Dispensatory, though as a rule, they are to be repeated oftener than the ordinary dose.

Fothergill says that the old fashioned drug, epsom salts, is a most excellent laxative for children in five-grain doses. And we know that the laxative effect of natural mineral waters is often due to a still smaller amount of the salt.

Bartholow and Wood both recommend minute doses of various drugs under certain conditions. For more than a year as opportunities have offered, I have experimented with small, frequently repeated doses and have carefully recorded the results. These I present to-night, and as far as they are of value, I ask your attention to them.

1. *Mercury.* Sept. 1, 1883, I was called to see a delicate infant which for ten weeks —since the middle of June—had suffered from diarrhea. During the whole period it had been under the treatment of various physicians; but it appeared to be getting worse. When first seen by me, it was having twelve or fifteen thin, greenish, offensive evacuations daily, and was exceedingly debilitated and emaciated. The family had given up all hopes of its recovery, and in my opinion the prognosis was very grave.

It was ordered one-eighth of a grain of calomel and three grains of sugar of milk hourly. Within a few hours the dejections because more natural and the child almost immediately began to improve. The next day its condition was so much better as to excite the wonder and gratification of the family, who were excessive in their praise of the powder. In a week the child was well. This is a typical case of long contuined infantile diarrhea of unusual severity. I have notes of eight other cases of the kind, though none of them were as severe as this. In all of these cases the treatment consisted in the administration of minute doses of calomel—one-tenth to one-thirtieth of a grain, repeated every thirty minutes or one hour at first, and later at longer intervals. In every case without a single exception the treatment succeeded admirably. The same drug I have given to several adult patients in the condition characterized as 'bilious', from one-third to one-half of a grain every hour or two; and thus given, it has invariably acted much more promptly and agreeably than the ordinary large dose of calomel or blue mass.

Calomel has also proved a very efficient remedy in children's dysentery, characterized by frequent bloody or mucous stools attended with tenesmus. I have notes of six cases treated with an average of one-third of a grain every half hour for four doses; then hourly, and finally every two or three hours. In this limited number of cases, the drug thus given has acted quickly and well in restoring the condition to the normal.

At the suggestion of a medical friend of large experience, in five cases of infantile dysentery, I have used the bichloride of mercury; giving to a child a year old, the one-two hundredth of a grain every hour for three or four doses, and then less often. Improvement usually followed in a few hours, and in every case recovery was rapid. The bichloride of mercury in small, frequent doses is highly recommended also in the dysentery of adults; though personally I have not had an opportunity for trying it.

Gray powder (hydrargyrum cum creta) I have used in eight cases of entero-colitis ("summer complaint"), with the most satisfactory results. It has been given every hour in about one-fourth grain doses. In all cases as the condition improves the remedy should be given less often.

In all of these cases in which mercury was used, particularly in diarrhea and dysentery of children, numbering in all twenty-eight cases, it has acted remarkably well. Every case, though some were of the severest kind, improved almost from the first dose.

With regard to mercury, Ringer says, "small doses yield excellent results in a form of diarrhea common in children. The child's health is bad; the digestion is imperfect, generally with annoying flatulent distension, and three or four pale, clayey motions a day. Even when this condition has lasted some weeks, a single grain of the bichloride of mercury dissolved in half a pint of water and a teaspoonful given every hour—or better still one-third of a grain of gray powder every hour or two—will in one or two days restore to the stools their natural color and frequency," and again he says, "For biliousness it is common to give one or two nights a purgative dose of some preparation of mercury; if no constipation exists, better results are obtained from small doses of gray powder frequently given—one-sixth to one-half a grain two or three times a day. If so used we should not have the bad effects which cause practical doctors to decry its use."

2. *Arsenic.* This drug I have given in four cases of vomiting of pregnancy, in which other remedies had failed. In three cases it was of very great benefit, but in the fourth it had no effect whatever. The one-hundredth of a grain of arsenious acid was given every fifteen minutes until four doses had been taken, if so many were needed. But with three of the patients, one or two doses invariably checked the vomiting; so no more was required at that time. I have also given small doses of Fowler's solution in obstinate cases of "sick headache." From the record of seven patients treated with minute doses for this affection, two were not benefited in the slightest; one was helped a little; four were very much relieved by it, and in one case the medicine gave such immediate relief that the lady keeps it constantly at hand, as an unfailing cure for her headache. In all these cases. Fowler's solution was given in half drop doses every fifteen minutes until four or five doses had been taken; if benefit is to result it will usually be manifested by that time.

3. *Belladonna.* This is another remedy I have given in small doses to relieve "sick

headache." In one case the patient claimed to be made worse by the medicine. Seven others were improved, five of them very much relieved and benefited. One of these had previously been given Fowler's solution without avail, but a drop of belladonna tincture every fifteen minutes gave relief after three or four doses. Another patient was a young girl, who for three years had scarcely passed a week without an attack of this distressing headache. In her case one or two two-drop doses of the tincture of belladonna invariably give relief. In the form of sore throat which is attended with great soreness or rawness, without any very marked signs of inflammation, I have found the following prescription to be of great benefit:—

℞. Acidi carbolici......gr. iv.
Ext. belladonnæ.....fl. m. v.
Glycerinæ............℥i

A half drachm of this containing only one-third of a drop of fluid extract of belladonna, given every hour usually affords speedy relief. The carbolic acid solution alone is not sufficient. How belladonna acts in such minute doses we are unable to explain, but in many cases the results are remarkable.

4. *Gelsemium.* In nine cases of neuralgic headache and neuralgia of the fifth nerve this remedy was given, two drops of the tincture every fifteen or twenty minutes. In five of the cases, it had no perceptible effect, although in one of these, it relieved the pain when given in the ordinary large dose. Four patients of the nine were much benefited, and in two, relief followed soon after the second dose of two drops.

5. *Turpentine.* The dose of this drug as recommended in typhoid fever is not less than fifteen drops every three hours. But in the treatment of twenty-two cases of typhoid fever, I have never given more than two drops at a dose; for this has always seemed sufficient to overcome the dryness and coating of the tongue, and with the addition of subnitrate of bismuth, when necessary, to check hemorrhage. At present I have under treatment two children with typhoid fever, and although the temperature has reached 104°½ and 105° in the two cases, they are now progressing finely. In these cases the amount of turpentine given is 1¼ drops every two hours. From my experience with the remedy I can unhesitatingly recommend small doses of turpentine for cleaning off the tongue, which of course is simply the index of the condition in the intestinal tract.

6. *Ipecac.* The wine of ipecac, one drop three times a day, is recommended by Ringer, for the vomiting of pregnancy. For this purpose I have not had opportunity to use it. But on three occasions, for ordinary simple nausea and vomiting, I have given 1-50 of a grain of powdered ipecac, repeated in half an hour. With all three patients the remedy succeeded after two or three doses. One of the patients has taken the powder on three occasions, and always with speedy relief.

7. *Tartar emetic.* On Jan. 28, 1884, I was called to see a little girl who had been playing out doors, and, as her mother said, "took cold," to which she was very susceptible. Fever was not marked, nor was the pulse much accelerated, but the chest was filled with sibilant and large, bubbling rales, and in addition to the ordinary symptoms of a bronchitis, there was a wheezing — the almost asthmatic breathing — often found as a result of "catching cold." The rales and wheezing could be heard at the other side of the room.

I dissolved half a grain of tartar emetic in a glass of water, and ordered a teaspoonful every fifteen minutes, for three or four doses, then hourly, and after that every two or three hours. In a few hours the rattling, wheezing in the chest had disappeared, and the following day the girl was as well as usual.

The case belongs to a common class of winter ailments, and the only remarkable feature is its ready yielding to 1-100 of a grain of tartar emetic. The same dose I have used in several other cases, always with success.

8. *Bromide of potassium.* The same condition has in two instances yielded as singularly to one-third grain doses of bromide of potassium every fifteen minutes.

9. *Iodide of potassium.* A common and distressing effect of "taking cold" is congestion, or perhaps inflammation of the frontal sinuses, causing a dull headache between the eyes. I have notes of eleven cases of this form of headache, every one of which yielded quickly to minute doses of iodide of potassium. It is most easily given by dissolving two grains in half a glass of water, and having the patient sip this in the course of half an hour. I can highly recommend this as a simple and very efficacious remedy for frontal headache.

10. *Castor oil.* This is mentioned as an efficient laxative in frequently repeated five drop doses. But apart from this action, in some instances it has a remarkable influence in stimulating the secretion of milk. In the case of a lady whose milk secretion was not free, five drops of the oil three times a day were given. She said that two or three hours after the first dose she felt a relief in the mammary glands, and soon the secretion was very much promoted. After a second confinement, she had recourse to the same remedy, with equally gratifying results. And subsequently, upon her recommendation, a lady friend has taken the five drop dose, with the same effect.

My experience with minute doses of castor oil is limited to these two cases; whether here the action was unusual I cannot say, but we know that locally applied the drug is a valuable galactagogue.

11. *Ergot.* In six cases of premature labor pains, threatening miscarriage, I have given small doses of ergot to check muscular contractions. Five drops of the fluid extract every half hour were given for four or five doses. In four cases the pains were soon controlled, and did not recur. In the fifth case the ergot had at first but slight effect, but in about twenty-four hours, after nearly two drachms had been taken, the contractions gradually diminished, and finally stopped altogether. They, however, reappeared twice subsequently, but both times yielded more readily to the minute dose of ergot.

In the sixth case the woman was in the third month of pregnancy, and as a result of jolting in alighting from a carriage, labor pains began. She was given small doses of ergot, but the pains became stronger and more threatening. The ergot was discontinued, and large doses of opium and camphor were given, without modifying the condition. This treatment was then abandoned, and as a final resort I had recourse to a drug that had upon two or three previous occasions saved the day. I ordered two grains of the extract of black haw (viburnum prunifolium) every two hours, and to my satisfaction the uterine contractions lessened in force, and by the following day had altogether ceased. That was two weeks ago, and the pains have not returned.

12. *Phosphoric acid.* This is the last drug that I shall speak of, and my experience in giving it in small doses is limited to three cases of sweating in phthisis. In all it has acted remarkably well. The most obstinate case had been given atropia, piperina and oxide of zinc, each in its turn, without checking the excessive sweating. As a last resort, phosphoric acid was tried, for I had seen it recommended. The very small dose of five-eighths of a drop of the dilute acid every hour was ordered, and only two doses were needed. Half an hour after the first dose there was appreciable lessening of the sweating. In this case the acid has been given on several occasions with always the agreeable result above noted. The other two cases were not so severe, and both yielded readily to the small dose.

The results of my investigations with these medicines in small, repeated doses, are given as they occurred, whether favorable or otherwise in their character. The number of cases is not large enough to warrant any very definite conclusions, but certainly for further work a fruitful field lies before us. Why and how the minute doses produce such remarkable effects we can not explain, but in many cases we are confronted by the unmistakable fact that they do. The sixtieth of a grain of atropia will dilate the pupil. But if the sixtieth of a grain is divided into 10,000 parts, a single one of these has an appreciable effect on the eye. How does the inconceivable atom act? How much of it enters the blood? How does it stimulate the nerve? Further study must answer.

In conclusion I must express my regret that in the absence of hospital and dispensary facilities, my investigations could not be upon a larger scale. For they have necessarily been confined to persons who are practically patrons, and, as a consequence, the experiments have suffered a natural limitation and restraint not vouchsafed to the ordinary charity patient.

THE MEDICAL DEPARTMENT OF THE Western Reserve University, of Cleveland, is to have a new building. Among the additions to the necessary fund is one of $10,000 from the estate of the late Mr. Hurlbut, whose large bequest to the City Hospital we lately recorded.

The LANCET & CLINIC and OBSTETRIC GAZETTE to one address one year for $5.00.

CRYPTORCHIS, OR CONCEALED TESTICLES.

A paper read before the Miami Valley Medical Society, at Loveland, Ohio, May 13, 1884,

By S. R. VOORHEES, M.D.

In presenting to you this paper it is not so much for the purpose of enlightening your minds on this subject as it is to obtain from you an opinion on what seems to me to be a very important branch of our profession.

I have been called on lately to express an opinion to one whose testicles had never descended into the scrotum as to whether all such persons are impotent.

In looking over the literature on impotency I find very little on this subject that is satisfactory or conclusive. It is a fact well known to the profession that it is very difficult to get persons to reveal their physical or mental imperfections. This may be the reason why so little is found in the standard works on this subject.

This case was found by examining in the right iliac region for the cause of pain, and then he enjoined on me profound secrecy. I promised not to reveal his name, but he granted me the privilege to use the facts in his case. I promised to take his case under advisement, and report at some future time. He gave me his history as follows.

He is fifty years old, one of twins, of good family, has three brothers and two sisters married, and they all have children. He has been twice married and never had any children. With his first wife be lived nine years, she dying of typhoid fever, and with the second he has lived now sixteen years, both being healthy women. When a boy he knew he was different from other boys, and would try to conceal the fact from them.

At about fourteen he had the whooping-cough, and one day during a severe paroxysm of coughing he felt something dart from the right side of his back down through the abdomen, and stop on the pubic bone. It gave him some pain, and he put his hand there and felt a hard mass the size of a hen egg. He knew it was a testicle, for he had heard a physician say that the testicles descended in that way. He now felt very proud, for he was now like the other boys. He tried to push it down into the scrotum, but it gave him pain and he quit it. It now lies in the inguinal canal, behind and just above the pubic bone. The other testicle lies on the pubic bone and can be pushed back into the abdominal cavity. It has been there from his earliest recollection, and is much smaller than the other. He is about five feet ten inches high and weighs one hundred and fifty pounds, is well developed in every way, and has a strong manly voice and moderately heavy beard. He says he enjoys coition and performs an average amount of this pleasant duty. The semen is normal in amount, seems healthy, but microscopic examination reveals no spermatozoa.

In interviewing stock-raising men on this subject, they tell me that animals with both testicles remaining in the abdominal cavity never beget any offspring, but are anxious for copulation. Where one testicle descends into the scrotum, they will impregnate the female, and the young may be of either sex. As impotency is a valid ground for divorce, we regret that there is so little literature on this subject that we can rely on in giving testimony before a court of justice. Just how far the testicles must descend in order to allow of impregnation has not yet been demonstrated.

As the literature on the subject of cryptorchidism is very meagre, we supplement Dr. Voorhees' interesting paper with a report by Robert W. Johnson, M.D., recently read before the Medical and Chirurgical Faculty of Maryland, as published in the *Med. News*, April 26, 1884.

Dr. Robert W. Johnson spoke of the effect this condition may have upon the mind of the man, referring to the case of Sir Astley Cooper's apprentice, who was so depressed that he finally committed suicide. There are several varieties of perverted development and abnormal position of the testicle.

1. There may be supernumerary testicles, with which we have nothing to do. 2. We have the class of monorchids, or persons having only one testicle in the scrotum, the other in the abdomen, inguinal canal, perineum or thigh. One healthy testicle is sufficient for purposes of reproduction. 3. The cryptorchids are more rare: no testicle in scrotum on either side. These are further divided into (*a*) those who are actually devoid of testicles, or anorchids; (*b*) those whose testicles are both in the abdominal cavity or inguinal canals; and (*c*) those who are a mixture of the other classes, *i. e.* have one testicle in the abdomen and one in the

canal. Marshall states that monorchids occur once in eight hundred examinations, and cryptorchids once in twelve thousand. The latter are apt to be effeminate, beardless, or only having down upon their faces, and with a shrill voice; in short approaching hermaphroditism. This is not always the case; there may be no apparent difference between the person so affected and an ordinary man. The most singular thing of all is that there have been cases in which the wives never suspected anything to be wrong; in fact, some are extremely lascivious.

Dr. Johnson then proceeded to discuss the causes of this abnormality and its effect on the retained testicle, and concluded by saying that as a general rule the testicle was apt to suffer less in the abdomen than if in the inguinal canal. In the latter position it is much more exposed to pressure from various causes, often from an ill fitting truss, and it appears that malignant disease often attacks the testicle in this position. Subjectively the influence is greater if the testicles are in the abdomen, as it affords comfort and reassurance to him whose scrotum is empty to find the testicles in the groin. Are cryptorchids sterile? We must distinguish between sterility and impotence; the former implies inability to beget offspring, the latter inability to have sexual intercourse. They are certainly not impotent, but are apt to be sterile, though not necessarily so. The testicle in its abnormal seat may be affected with all the ills that affect it in its normal seat, orchitis, etc.

Dr Johnson has prepared elaborate tables of which the following is a summary:

Total number of cases . . .	89
Cases over 14 years old . . .	66
No testicle found post mortem . .	9
Both testicles *may* have been retained in abdomen . .	Uncertain
Both in inguinal canal . . .	18
Only one in canal . .	8
Semen examined	15
Spermatozoa in semen . . .	3
Number having children . .	10

In one case heredity was remarked, where a monorchid begat a cryptorchid child.

Dr. Johnson then related a case of his own, which he brought before the Faculty. A young man thirty-three years of age, well developed, hairy, muscular, with deep voice and full chest. He was a perfect Lothario, and quite gloried in his amours; was once in trouble on the charge of bastardy, from which he escaped on the payment of a large sum of money. He claims to have had several children. His mother noticed that his testicles were empty in infancy. He is a sailor, and one day while pulling a rope he felt something give way on his right side, which proved to be the beginning of a hernia, for which he sought treatment. The scrotum was found to be quite empty on both sides, excepting a small part of the bowel that could be felt protruding from the canal. On the first examination Dr. Johnson was able to feel the testicles presenting, but has not been able to feel them since. He examined the semen, found it lighter colored and more transparent than normal, lacking the usual smell, and devoid of spermatozoa. He had repeated the examination on several occasions and always with the same result.

As regards treatment, he said that if the testicle is retained in the abdomen, nothing can be done but to wait for its descent, and this may be hoped for by the end of the first year. If they are in the canal moderate and gentle traction is beneficial. The traction should be frequently repeated rather than continued for a long time on any one occasion. If traction is of no avail, return it to the abdominal cavity. If this cannot be done, protect it with a horse-shoe pad, and relieve the strain on the gland by an abdominal support. Keep the patient ignorant of his sterility.

HIPPOCRATES.

By W. R. Amick, M.D., Cincinnati, O.

In our first article we stated that we did not present this subject for the purpose of criticism, but simply that we might know something of the views held by the ancient physicians. In this article we may not have been exactly faithful to our major premise, and possibly may have fractured it a little. At the same time that we are "not guilty, yet we have taken the liberty to offer some comments upon the subject.

Had the Suabian psychiatrist lived in the time of the philosopher of Cos, then by combining their labors they might have evolved and demonstrated an animistic principle that would have produced a more tangible impression than the psychic force of the Editor of the London *Chemist*.

There is no doubt but what there was considerable of the fanciful and imaginative in their theories, yet we would be far from saying that there was nothing real or true in them. Simply because they deified Apollo, Ægli, Iaso, and others, and gave to them omnipotence which we consider mythical, it does not prove that they were not capable of observing and promulgating a correct principle or action.

Æolists have existed throughout all of the misty centuries of the past, and there is no doubt but what they will "bob up serenely" in the future in the accoutrement of the magican, and possessed of a magic wand.

The following are some of the remarks which Hippocrates makes in regard to the eyes:

If they avoid the light, or weep involuntarily, or are drawn on one side, or are less than one another (that is, one smaller than the other), or are red in the white, or have livid or black veins in them, or little, purulent specks about the pupils, or are elevated and in continual motion, or are thrust out from their orbits, or are very hollow, or are squalid and without brightness, or if the color of the whole face is changed, all these appearances are to be counted bad and fatal.

The appearance of the eyes under the eyelids in the time of sleep is also to be considered. If the eyelids are not closed perfectly, and part of the white is seen, where neither a diarrhœa nor a dose of physic might occasion it, and where the habit is not natural with the patient, it is to be considered a bad sign, and very fatal.

Again, if an inflexion or a contraction, or a lividness or a paleness appears in the eyelid, lip or nose, with any of the other signs, death is certainly not far off.

A distortion, or, as it were, a breaking of the eyes in acute cases, is bad. A shivering coming upon a distortion of the eyes, with a fever and lassitude, is fatal. A coma upon this is bad. A distortion of the eyes from a pain in the loins, moving upward, is bad. A fierceness in the eyes implies delirium.

A swift and irregular motion, with a distortion, is bad. A direct position in the eyes, with a swift motion, a disturbed sleep, with watchings in the intervals, and drops of blood from the nose, are by no means good. A dullness of the eyes, a fixedness and a mistiness, are bad. A dullness of the eyes, with faintings, implies an immediate convulsion. When the eyes have lost their force or vigor, death will soon follow. If it happens in an unequal year, the unequality will affect both, but if in an equal year, and upon an equal day, death must happen upon an equal day. A redness of the eyes in a fever denotes a long disorder of the abdomen.

It is also a sign of death for the lips to be paralytic, to hang down, and to be cold and white.

The tongue is of the same color as the prevailing humors, and, therefore, from this we know the state of the humors. The pale tongue, with a greenish cast, proceeds from bile, the red from blood, the black from black bile, the highly dried from fuliginous burning, and the uterus, and the white from phlegm. If the tongue is a little stiff at the beginning, and preserves its color, but in time becomes rough, livid and chapped, it denotes death, but if it be very black, a crisis will happen on the fourteenth day.

The most dangerous of all is the black and the pale with a greenish cast. If the tongue, about the middle of it, be smeared with something like white spittle, a remission of the fever may be expected the same day, if what comes upon it is thick; the next day, if it is thinner, and the third day if it be still thinner. The same thing happening upon the tip of the tongue denotes a similar condition, but in a lower degree. A rough, thick, and very dry tongue denotes a phrenzy.

A trembling tongue denotes a tottering understanding. *Query*, Whether a trembling tongue is not a sign of a tottering mind.

A sharp, shrill voice is bad. A sharp, mournful voice, and a dullness of the eye is convulsive. Pains in the lower parts are easily borne by such.

A fierce answer from a mild man is bad.

Deliriums that grow firm by degrees are bad and brutish. Impediments of speech in a fever are bad. Loss of speech, with hiccough, is very bad. Those who lose their speech through pain, die hard. Loss of speech in those that shiver now and then is fatal. Such persons generally have pain in the head. Those who lose their voice frequently, and have a stupidness upon them, are in danger of a consumption.

If the breathing is frequent and small, it denotes an inflammation or pain in the principal parts, if great and slow, a delirium or convulsion, and if cold, death.

The same can be said of hot and fuliginous breath, but in a lower degree than the cold. Likewise, that which is great without and little within, and that which is little without and great within. But the worst and nearest to death of any is that which is very slow or far extended, the urgent or very pressing, the obscure or scarcely visible, and the twice retracted or called back again, as when we take one breath upon another. Easy breathing in all diseases that are attended with acute fevers and brought to their crisis in forty days, goes a great way towards recovery.

Sudden changes in the extreme parts both ways, and of thirst in like manner, is bad.

Coldness in the head, hands and feet is bad if the abdomen and sides are hot at the same time.

Hippocrates says that he can surely predict the course of the disease by the motions of the hands. Whoever in acute fevers, inflammation of the lungs, phrensies or pains in the head, puts his hands before his face, and hunts for, or catches at anything in vain, gathers motes, or things of that nature, picks the nap of the bedclothes and pulls straw out of the walls, are all in a bad and dying condition. If to this be added lividness of the nails and fingers, death is to be expected soon. A thorough blackness of the fingers and toes is less fatal than a lividness.

Decubitus.—It frequently happens that nature dictates the decubitus in some cases, and the nature of the disease may be inferred from this; at the same time, a lesson is given for its management. The recumbent position in the low or continued fevers favors hypostatic congestion. If acute pleurisy is developed in a case where the patient is compelled to lie upon his back, the fluid will accumulate in the posterior portion of the thorax, leaving the anterior part free.

I think that I can safely say that at least the majority of cases of paraplegia die of hypostatic pneumonitis. The supine position favors the accumulation of the fluid in the posterior portion of the lungs, not only interfering with respiration and the proper action of the blood, by filling up the alveoli located in this region, but by producing irritation, and its resultant — inflammation.

An inability to assume the recumbent position points to cardiac and pulmonary diseases. If a tumor or an aneurism is located in front of and presses upon the trachea or large tubes, the patient would not only sit up, but lean forward, so that gravitation would draw the obstruction away from the air tubes, and give at least some relief to the dyspnœa.

In pulmonic or pleuric diseases confined to one side, the decubitus is frequently unilateral, but the condition and stage has to be considered in order to answer the question, which side?

It is hardly necessary for me to say that the decubitis in peritonitis is upon the back, generally with the knees drawn up, to relax the abdominal muscles. In spinal meningitis the head is quite frequently thrown backward, to relax the muscles of the post-cervical region. But, as this position produces a tension of the sterno-cleido-mastoid muscles, and they then press upon the cartoid arteries, it may be that this lessens the amount of blood that would otherwise flow to the brain and meninges. If this is the case, then sensation dictates the posture. In cerebro-meningitis the patient generally assumes the "curled up" position, with all the limbs bent toward the body.

But we will return to Hippocrates, and mention some of his aphorisms upon this subject. He says that the patient ought to be found by the physician lying upon his right or left side, with his hands, neck and legs a little bent, and the whole body in a moist state, for this is the position of the generality of persons in health, and the position that comes nearest to that in health is best. But, to lie upon his back, with his hands, neck and legs stretched out is not so good, and if he bends forward, sliding to the foot of the bed, it is still worse. It is also bad for the feet to be found naked, and not very warm, and for the hands, neck and legs to be thrown about irregularly, and uncovered, for this implies great uneasiness and disorder. But if he sleeps with his mouth always open, and his legs, as he lies on his back, are very much bent and tangled, death is to be expected. If he desires to sit down (up) as the disease advances to its crisis, it is bad in all acute cases, but worst of all in inflammation of the lungs.

In whatever disease, if sleep produces pain, it is fatal. When sleep puts a stop to delirium, it is good.

If a pulsation happens in the hypochondre (side of the abdomen, or front and side), it implies great disturbance or a delirium. In this case the eyes are to be considered. For if the motion in them is frequent and quick, madness is to be feared.

A swelling in the hypochondre that is hard and painful, is worse if it takes in all of this region, but if it be upon one side only, the left is less dangerous. Such a swelling in the beginning denotes the patient's life to be short, but if it exceeds twenty days, and neither the fever ceases nor the swelling subsides, it has then a tendency to suppuration. (It would appear from the above statement that Hippocrates recognized the difference between an enlargement of the spleen and an hepatitis resulting in an abscess.)

Bleeding at the nose happens to such in the first period, and is of great benefit. but it should be inquired whether the head is painful and the sight dim, for if anything of this kind happens,, the evacuation will tend that way. (It is evident that in this instance he refers to an hepatic abscess, and that an epistaxis, with the other symptoms, would indicate that it would point and break in that direction, *i.e.*, into the lungs. I am not well enough informed upon this subject to say how many or what per cent. of these cases are evacuated in this manner. Macpherson says that the most favorable mode for the evacuation of the pus in cases of abscess of the liver is through the lungs.) Hippocrates states that young men of thirty five are most likely to bleed at the nose, while old men are less liable to do so.

Pain of the hypochondres, pit or mouth of the stomach, and parts about the navel, are caused by a hemorrhage downwards; if no hemorrhage happens, then they are fatal. When pain comes upon one suddenly, the hypochondri are elevated, and if they reach to the bastard ribs with vehemence, bleeding and purging downwards is the cure.

A violent fever never attacks us when the parts have lost their strength.

A pain in the pit of the stomach, with a terrible griping in the abdomen, is followed by a discharge of worms and the like creatures.

In a pain in the back and breasts, a suppression of bloody urine is painful and fatal.

If a loathing of food follows upon a pain in the side, with a little heartburn, sweatings and a florid countenance, and a relaxed abdomen, pus is collected in the lungs. Pain and fever are more marked while it is forming than when it is actually formed.

Two pains, happening at the same time, but in different situations, the more violent makes the other less sensible.

A pulsation and pain about the jugular vein in a fever terminates in a dysentery, and a hardness or pain in the neck, with an adhesion or fixedness of the jaws, a strong pulsation of the jugulars (carotids), and a distension of the tendons is fatal.

Acute pain behind the ears, with a continued and strong (high) fever, is very bad, for the patient is in danger of delirium and death. We ought, therefore, as the method of proceeding is dangerous, to observe all the signs from the first day.

Young persons are lost by a complaint of this kind the seventh day, or sooner, old persons much later, as being less subject to fevers and delirium, for which reason the ears are most apt to come first to suppuration. Relapses coming upon men of these years prove fatal in most cases, whereas the young die before suppuration takes place, but where white pus is discharged from the ear, there is more hope of a young man recovering.

(From this statement of Hippocrates we are to believe that there is a greater liability for an otitis media purulenta, or a purulent inflammation of the middle ear, to pass to the meninges or brain in children than in adults. By saying that it passes to the brain, we mean that the presence of the inflammation in the ear may cause meningitis or cerebritis by an extension or transmission of the *materia morbificus*. We also infer that this takes place without a rupture or perforation of the membrana tympani. From his statements we would suppose that there was a greater degree of resistance in the drumhead of children than in adults. At the same time that there was greater resistance in this membrane in childhood there is also less resistance in the vault of the tympanic cavity, so that an inflammation of the middle ear could pass more readily to the brain and its coverings. The bone being thinner and more elastic in children, would yield more readily to pressure, and a fluid in the cavity of the tympanum, that was constantly increasing, without any avenue of escape, would, according to Hippocrates, be more apt to cause an inflammation of the brain and its coverings, than a rupture of the membrana tympani.

I think, however, that he is in error in this supposition. We will admit that the vault of the tympanum will yield to less pressure or is less resisting, in children, than it is in adults, in the literal sense of the term. But we do not believe that the *membrana tympanorum* of children have correspondingly as great a power of resistance as they do in adults. The processus auditorius is not complete at the upper portion until, or even after birth, and as the drumhead has its attachment to this, we are inclined to believe that the greater power of resistance is in favor of the adult. We know that in certain cases there is a dehiscence in the roof of the tympanum, and that the lining membrane of this cavity may be in contact with the meninges of the brain. In a case of this kind, whether young or old, there would be a greater liability for an inflammation of the middle ear to extend to the brain or its covering. In such a case it would be by contiguity, and as there is no bony septum to prevent the advance of the disease, it would be a simple process. In the great majority of cases we have the bony plate protecting the brain, so that when an inflammation extends from the ear to that organ, it has to do so by first producing a periostitis and necrosis, or be transmitted along the vessels that pass through the foraminæ leading from one structure to the other.)

Redness about the ears from a preceding pain in a fever, is the forerunner of St. Anthony's fire. (It will be remembered that St. Anthony's fire is one of the popular names for erysipelas). Convulsions may also proceed from such complaints, with loss of speech and a general relaxation.

Cold, transparent, contracted ears are fatal. If the wax in the ears is sweet it is fatal; if bitter, then it is not dangerous. A buzzing and a noise in the ears in acute cases is fatal. Deafness coming upon an acute and ruffling disorder is bad. It is also dangerous in long cases and occasions pain in the hips. Deafness in a fever is succeeded by madness if the fever is not carried off. Bleeding at the nose, or bilious purgings, or a dysentery, or a pain of the hips or knees coming on will carry it off. In the progress of a disease, deafness with urine that is very red, without a sediment, but with a cloud floating up and down in it, denotes a delirium. A jaundice coming upon such is bad, and so is a foolish weak understanding upon a jaundice. Such persons are apt to lose their speech, but not their senses. Deafness in a fever produces constipation. Bilious stools stop when deafness takes place, and *vice versa*.

A pain in the head with sopor and heaviness are indicative of convulsions. Aeruginous vomiting in headaches attended with deafness and watchings terminate in madness. Pain in the head, with a thorough stupidness, delirium, constipation, fierceness in the eyes and floridness of the countenance are followed by that kind of a convulsion that draws the head backward. Those that are comatose, and perspire a little from the beginning; that become exeedingly hot, that grow cold all over without a crisis and in a little time again burn all over, that are stupid, comatose and convulsed, are past recovery.

Ramblings that are attended with a difficulty of breathing and a perspiration are in a bad way. Ramblings attended with laughter are safer, but if with labor and study, are dangerous. Little ramblings that gradually become furious, denote melancholia. Ramblings attended with a shrill voice, a convulsed and tremulous tongue, denote a phrensy. When the abdomen is lax, the patient weary, with pain in the head, attended with thirst, watchfulness and imperfect speech, a violent delirium is to be feared. Violent delirum in fevers with taciturnity, where the speech is not lost, are fatal. Those that grow cold all over after shivering, and complain of pain in the head and neck upon coming to themselves, die. Loss of speech from a rigor is restored by a trembling, and those who are now and then subject to rigors are cured by the tremblings coming on. (It is evident that this condition refers to epilepsy.)

A suppression of urine with a rigor is bad and convulsive, especially if a deep sopor precedes.

Rigors that proceed from the back are more severe than any others, and where anyone shivers on the seventeenth day and again on the twenty-fourth, the crisis will prove difficult.

A rigor proceeds from the stomach, but a fever rather from the intestines.

The sweat which carries off the fever on a critical day is best, and that which eases us is of service, but the cold sweat and that which affects only the head and neck is bad, for it denotes duration and danger. The worst of all sweats are those that are cold, and about the head, neck and face only, for in acute cases these are the forerunners of death. Perspiration resembling *millet*, especially about the neck, is bad, but that resembling drops and exhalations is good. In a word, the condition causing the perspiration ought to be well understood, for some proceed from a relaxation or dissolution of the body, others from the violence of an inflammation.

In acute fevers, convulsions and violent pains in the bowels are bad. A convulsion coming upon a wound is fatal. A convulsion coming upon a purging potion is fatal. It is better for a fever to come upon a convulsion than for a convulsion to come upon a fever. Sneezing coming upon a hiccough will carry the latter off.

Whenever a hemorrhage from the nose takes place upon the fourth day of a fever it is bad.

A suppression of urine with shiverings is bad, and threatens convulsions, especially if the patient was very stupid and dozing before. Abscesses behind the ears may be expected in such cases.

Of fevers, some are biting or pungent to the touch, others mild, but increase. Some again are acute, but become milder and milder to the touch, others are immediately burning hot, while some are all through the course moderate and dry. Again, some are salt; others covered with blisters or pustules terrible to look at. Little pustules breaking out all over the body in a continued fever are fatal unless the abscesses come to suppuration. (The origin of small-pox is not known, neither is it known where it made its first appearance. Our text-books tell us that it existed in Europe in the 6th century. From the above statement it would seem as if Hippocrates had that disease to contend with in his time. Yet he does not, so far as I know, say anything more about it, or even mention a disease which we could infer from his description to be small-pox. In speaking of chronic cases he recognizes the fact that a change of climate is of service.) We will close the present article with

The Hippocratic Oath.

I swear by Apollo, the physician, by Aesculapius, by Hygeia and Panacea, and by all the gods and goddesses, that, to the best of my power and judgment, I will faithfully observe this oath and obligation. The master who has instructed me in the art I will esteem as my parents, and supply, as occasion may require with the comforts and necessaries of life. His children I will regard as my own brothers, and if they desire to learn I will instruct them in the same art without any reward or obligation. The precepts, the explanations, and whatever else belongs to the art I will communicate to my own children, to the children of my master, to such other pupils as have subscribed the physician's oath, and to no other persons. My patients shall be treated by me to the best of my power and judgment, in the most salutary manner, without any injury or violence; neither will I be prevailed upon by another to administer pernicious physic, or be the author of such advice, nor will I recommend to women a pessary to produce abortion, but will live and practice chastely and religiously. Cutting for the stone I will not meddle with, but will leave it to the operators in that way. Whatever house I am sent for to, I will always make the patient's good my principal aim, avoiding as much as possible all voluntary injury and corruption, especially all venereal matters, whether among women or men, bond or free. And whatever I see or hear, in the course of a case or otherwise, relating to the private affairs of life, nobody shall ever know it if it ought to remain a secret. May I be prosperous in life and business, and forever honored and esteemed by all men, as I observe and not confound this solemn oath; and may the reverse of all this be my portion if I violate it and forswear myself.

Society Reports.

ACADEMY OF MEDICINE.

Meeting of May 5, 1884.

W. H. WENNING, M.D., *Pres't in the Chair.* G. A. FACKLER, M.D., *Secretary.*

Tic Douloureux — Exsection of the Supra-Maxillary Nerve.

DR. YOUNG: Fourteen years ago he was called to attend a lady, whose illness terminated fatally three months ago. At the time of her death the patient was forty-nine years of age. When first seen she complained of nausea, slight dizziness and an unsteady feeling in her lower extremities. This condition continued for several months. Speaker concluded that brain trouble existed and expected paralysis as a result. Five or six months later deafness set in followed by melancholy, in which condition the patient remained for one and one half years, the symptoms exaggerated; incontinence alternated with retention of urine and feces. During a period of almost five years little change in her symptoms was manifest. She was very sensitive and on several occasions it could be demonstrated that her mental faculties were intact. After this period all symptoms of stupor disappeared and as soon as she became reconciled to her condition her mind appeared to be perfectly sane. Patellar reflex was absent, but there were present jerking of the extremities and a tottering gait.

Five or six years ago the superior maxillary nerve became affected. It was temporarily controlled by quinia but the pain recurred with the cold weather. During the third winter it became uncontrollable. Consultation was called for, the case thoroughly examined and various modes of treatment suggested and tried, but no relief was afforded. After January the pain subsided and the relief was perfect during the summer months. The following winter the attack returned and the same results were obtained from the treatment as before. Meanwhile, having some business to attend to, she conducted it in such a manner as to show her intellectual faculties to be intact. Yet there were present the tottering gait, no patellar reflex, difficulty with the passage of urine and feces. She experienced some difficulty in arising and on several occasions fell on the floor. The speaker by this time had come to the conclusion, that the lesion was peripheral and not of central origin, of which he had been convinced at the beginning of the case. He observed her closely and read some of her letters written during her business correspondence, and concluded from his observations that her memory was perfect.

When the pain became so violent as to drive the patient frantic and drugs offered no relief, the speaker determined to operate. He had seen several operations of dissecting out the superior maxillary. Dr. Van de Veer read a very flattering report on this subject at the last meeting of the American Surgical Society in this city. At the time of the operation, the patient complained also of pain in the inferior maxillary and superior orbital regions. A semilunar incision was made under the eye. The nerve was drawn out to a considerable extent and a ligature tied around it, so as to control it thoroughly. Speaker then opened the antrum. Little difficulty was experienced in tracing the nerve to the posterior wall; he broke through the latter and with a blunt instrument followed the nerve to the base of the skull and severed it with the scissors. Hemorrhage was slight. The next day she complained of some pain. Now the pain in the inferior maxillary grew more severe. A swelling formed in the region of the inferior maxillary foramen. Patient could not eat. Another operation was proposed, but the patient died within two or three weeks before an attempt was made. After the operation no pain was experienced in the parts supplied by the superior maxillary nerve.

Dr. Zenner said that in the treatment of these inveterate cases of tic douloureux we are not very successful. He remembered one case upon which Dr. Wood operated, attempting to remove Meckel's ganglion. It is extremely difficult to succeed in such an attempt. He had supposed that the operation had fallen into disuse, until he heard the report referred to by Dr. Young. Certainly nothing could be expected from it. The results obtained in these cases depend upon the nature and locality of the disease. In some cases the changes in the nerve occur at the periphery and in some deep seated. In the peripheral the stretching or resection of the nerve will often result in cure. When the trouble is of more central origin an operation is followed only by negative results. The lesion in the case reported was probably far more central than Dr. Young would admit. The fact of the several symptoms, the deafness, the peculiar gait, making their appearance almost at the same time, points to some affection in the neighborhood of the cerebellum. It may have its seat in that part of the medulla where the 5th nerve arises. If the neuralgia of the superior maxillary branch is of intra-cranial origin, after its removal the pain is likely to reappear in some other part of the fifth nerve as was demonstrated in the case reported. The mere fact that there was no impairment of the intellect does not negative this theory. For here we are dealing with a part which has no connection with intellect, since the cerebellum has nothing to do with the higher stages of intelligence, except indirectly. If the nerves of the special sense are destroyed, we have diminished knowledge followed by diminished intelligence. The gait, the deafness and the pain seem all to point to central origin of the affection. The clinical history does not point to a possible existence of multiple sclerosis.

Dr. Young said that, according to his observations, in all cases in which the symptoms have not been as complicated as in this, we find the brain breaking down. He, at first, thought that the disease was located in the medulla, and expected some encroachment upon the remainder of the brain, but no brain symptoms were present at the time of the patient's death, and the symptoms manifested in the lower extremities had improved during the last year.

Dr. Zenner remarked that such an improvement was not uncommon. He recalled a case, which he observed in London. Cerebral tumor was the diagnosis made by Hughlings Jackson and Ferrier, so that there was scarcely a doubt to be entertained as to its correctness. At the end of six years, when the speaker saw the case, the gait was no more impaired and the pain was far less severe than in former years. The clinical symptoms are always uncertain and the patient's die without an apparent cause.

Palatable Medicines.

Dr. Nickles stated that the majority of drugs can be made quite palatable. Some cannot. Aconite being guggested, speaker said that this remedy when given in large doses will bring on collapse just as veratrum viride and digitalis. The temperature is lowered and the heart's action enfeebled. Quinia and salicylic acid do not act in this manner. Salicylate of soda can be made quite palatable with peppermint or cinnamon water. The addition of syrup makes its taste disagreeble, but it may be covered by extract of licorice.

The taste of quinia cannot be covered. If the patient objects to it, administer the quinia in the capsules. It ought not to be given however, unless the temperature rises to 104°. If followed by an acid its absorption becomes more certain. In fever, the hydrochloric acid is deficient in the stomach and hence the quinia may pass through this organ without being absorbed. In ordinary febrile affections resort to acetate or citrate of potassium. Citrate of potassium is made very agreeble with syrup of lemon or orange.

Many suggestions have been made in regard to disguising the odor of Iodoform, but none of special value. The taste of Tincture of Chloride of Iron can best be disguised by simple syrup. This tincture ought not to be frequently administered. When our object is to improve the strength of a patient, we ought not to give a form of iron which is strongly astingent and is apt to destroy the teeth.

The pil. ferri. carb., the reduced iron, the citrate of iron or the pyrophosphate of iron are the forms generally employed by the speaker. As to antipyretics, there are some cases in which quinia acts splendidly and others in which it fails completely. He has treated a number of cases of puerperal fever, in which the temperature, after a severe chill, rose to 104°, and in which a dose of 20 grs. of quinia lowered it to 101°, the temperature not rising subsequently to a higher degree. Whether the quinia produced the latter effect is doubtful. Speaker has at the present time, a case under obsevation in which quinia has had very little effect. The patient suffered with a chill at 2 o'clock p. m. The next morning the temperature was 104° Pulse 120. Evening temperature 105°. Twenty grains of quinia produced no notable change, for the next morning the temperature was again 104°. Then salicylate of soda was administered in 15-20 grs. doses, every 2-3 hours and in the evening ℨi. of the drug was given, bringing the temperature down to 102°. But the following morning again 104°.

May 4th A. M. temp. 105½°. Evening 104°. May 5th, A. M. 104½°, Evening 105½°, pulse 140 and flickering. Other symptoms are correspondinly severe, May 5th P. M. 20 grs. of quinia and an hour thereafter 30 grs of salicylate of soda were administered. All means with the exception of cold baths have been employed, with little effect. Of all these, salicylate of soda acts best. Speaker being asked as to iodide of potassuim said that neither this, nor the bromide nor common salt should be given in concentrated solution, but largely diluted.

Dr. Young said that he has frequently administered quinia enclosed in a piece of tissue paper, this being swallowed with food or water.

Dr. Nickles stated that he had given his patient large quantities of alcohol.

During the last four days, whiskey, which contains 50 per cent. of alcohol, was administered in table spoonful doses, and now in two tablespoonful doses every two hours.

Dr. Wenning remarked that he knows of no fever which baffles antipyretic treatment as much as the puerperal variety.

Dr. Young said that he never gives more than five grain doses of quinia every three hours, larger doses seem to be a waste of the drug. He has observed during the last five or six years, that if five grains are not followed by favorable results, ten grain doses will prove of no avail.

Dr. Nickles stated that it has been observed in the German hospitals that quinia followed by salicylate of soda produced a marked effect. Less than fifteen grains of quinia is not an antipyretic dose. In a low form of fever antipyretics are not called for.

Dr. Zenner remarked that puerperal fever has been controlled by Kairin.

CINCINNATI MEDICAL SOCIETY.

Meeting of April 29, 1884.

B. STANTON, M.D., *President*. JOHN L. DAVIS, M.D., *Secretary pro tem.*

Dr. W. H. DeWitt read the following paper

On the Relation of Certain Morbid Brain Alterations to Insanity.

Theories, like the individuals from whom they emanate, are subject to change. Years ago the students of psychology advocated that all forms and all stages of insanity were purely functional. More recently men have gone to the opposite extreme, viz: that each and every form of mental aberration has for its foundation certain morbid alterations of nerve elements. Here we have two opposing theories as different as day and night. We are here to-night to discuss this question, and, if possible, in part to reconcile the two.

A careful analysis of more than one hundred brains has led me to be rather more liberal. I can readily understand how either or both might be interpreted as being true or plausible. The time and means of investigation must necessarily influence a final decision.

That morbid alterations are frequently found in the brains of those dying insane is true, and it is equally true that we often find no structural changes. Why is this? The form and duration of the insanity determines the extent of brain lesion, the latter being the result and not the cause of the former. It will be proper just here to consider some varieties of mental disturbance.

Acute mania constitutes about twelve per cent of the causes of admissions to asylums in the United States. In no other condition do we find the symptoms so well marked and constant. There is a degree of mental excitement and incoherence rarely found in other forms of insanity, and the symptoms are as marked at the beginning as at any time during its course. We would therefore expect to find as characteristic lesions in the beginning as at a later period. What are the facts? In ten autopsies made by myself on patients dying at an early stage of acute mania there was not the least alteration in the nervous structure, the only abnormal condition being hyperemia of the cortical and sub-cortical vessels. But later on we find, besides vascular disturbances, profound changes in the nerve structure, the later stages of the disease approaching dementia in its pathological anatomy. If the mania is due to these alterations it should develop *pari passu* with them. But such is not the case, for the manifestations of excitement grow less and less as the structural changes increase.

In the study of acute delirious mania and mania transitoria the same conclusions are reached. These two diseases are considered by some authors to be the same, but I am satisfied from experience that there is a decided difference between them. Delirious mania differs from simple mania only by its greater fury and mental excitement. It is said that it never recurs in the same individual. Mania transitoria is a sudden violent explosion, vanishing as suddenly as it appeared. Persons have retired in perfect health, and awoke in a few hours in this blind frenzy. Could structural changes sufficient to account for such alarming symptoms come and go in an instant? I think not. I do not admit that these sudden mental purturbations are due to simple vasomotor disturbances, although there is in every case, no doubt, vascular injection. It has never been my good fortune to study, either macroscopically or microscopically, any portion of the nervous or vascular systems of such cases, but I am confidant that nothing would be observed beyond what I have mentioned. The conclusion then is, that the post mortem evidences are negative in those dying of acute mania or some intercurrent complication of it. The same remarks are applicable to recent cases of epileptic insanity, melancholia and monomania. Even in cases of long standing it is not possible to demonstrate any pathological changes. In the simpler forms of depression (melancholia) we find instead of hyperemia the opposite condition, ischemia, and nothing beyond that. Meynert, after a series of well conducted experiments, concluded that hyperemia was the exception and not the rule in melancholia, and that dilatation of the perivascular lymph-spaces is more frequent than in the acute psychoses. What, then, are the conclusions? That the patho-anatomical theory of insanity does not reconcile the facts I have gone over. It fails to explain the maniacal outbursts in the formative period of an acute psychosis, and the gradual subsidence of the same as the disease progresses.

What may be the explanation ?

In acute insanity there is, I believe, an exaltation of nervous energy, producing in time marked changes in blood supply, malnutrition, etc. Ideation is rapid and explosive, resulting in confusion and incoherency of expression.

Mr. Maudsley has said that mind represents the activity of brain cells; so we say that insanity represents the superactivity of brain cells. We must look for the opposite in dementia or melancholia.

To consider the morbid anatomy of insanity would tax your time and patience, and I promise you an investigation of this matter at a near date.

DISCUSSION.

Dr. Zenner remarked that he was much interested in the paper, but must demur to one proposition, namely, that the insanity causes the morbid changes, and not the reverse. He thought this statement would lead to incorrect ideas. Undoubtedly in all cases changes in thinking and other cerebral functions were due to changes in the the cerebral structure, molecular or molar, though we can rarely discover them with a microscope. Structural changes may not be detected by any means of examination in our possession, but they may nevertheless be causes of functional disturbance. They may even be caused by distant lesions, for instance, a hemorrhage or other disease at the base of the brain may be attended by psychic disturbances. The fact that in the beginning of most acute psychoses no structural changes are observed, while in the chronic cases there are appreciable pathological lesions, indicates that the disease has progressed, not that the structural alterations depend upon the insanity. Chronic diseases which lead to dementia, as progressive paralysis of the insane, are usually attended by marked alterations, especially diminution in the weight of the cerebral hemispheres, and commonly by special alterations of structure, as adhesions and opacities of the membranes, etc. These alterations are not understood, and are still under investigation.

Dr. Eichberg remarked that in his opinion Dr. Zenner had stated the matter very properly. If one will take the pains to examine a brain carefully in its whole extent, he will find the extreme difficulty of discovering the minute changes which at a later period would be appreciable. But in no case is it thinkable that the symptoms cause the lesions. In illustration of the difficulty of finding the structural changes in many of these brain troubles, the speaker related that Westphal, of Berlin, recognized as the highest authority, had a patient whose symptoms indicated very clearly sclerosis of the brain and cord, but after a post mortem examination Westphal admitted that he was unable to find any structural lesion whatever. The minute changes in the tissues, expressing themselves in the phenomena of acute mania, which afterward becomes chronic, are all probably of an inflammatory nature. For in the chronic forms of brain disease the morbid anatomy is similar to that found in chronic diseases of other organs, as atrophy, fibroid change, contraction, loss of weight, etc. These changes are the common results of chronic inflammation of the liver, lungs, periosteum, and, in fact, of all the organs and tissues of the body.

Dr. Heighway asked if it were not possible that the mental disturbance depends to some extent on chemical changes in the brain matter. He had read some time ago an authoritative statement which showed by analysis that the brains of idiots contained less phosphoric acid and phosphorus than the normal brain, while those of maniacs contained an excess of the acid, the variation from the normal amount being about two and a half per cent.

Dr. Zenner said that maniacal excitement is generally due to other conditions than inflammation of the brain or its membranes. He could not conceive that inflammation was the cause of the transient attacks of mania sometimes found in epileptics, nor has it usually any thing to do with the mania attending fever or exhaustion. Almost the only form of mania due to inflammation is that sometimes found in progressive paralysis.

Dr. Comegys remarked that the essential question of this discussion is the dependance of insanity upon functional disturbance, or organic lesion. It is is hard to conceive of functional derangement existing without molecular organic disturbance, whether the disease be insanity, epilepsy, mania or any other symtom of diseased mind. Such mental disturbances could not occur without a structural cause. Great emotion and passion exhaust the brain and lower its tone, and in this condition men commit all kinds of crime for which they are not responsible, for a healthy brain is nesessary to a free will. This fact is not sufficiently understood by the public. Men in great business enterprises overwork their brains. They are impulsive, quick, hot tempered; not cool and level-headed. They are not such men as you would care to entrust with important matters. They are excitable, subject to insomnia. There is probably hyperemia, and loss of tone, a molecular dissolution, disintegration. This condition is illustrated by a watch that gets out of order after years of use. Gradually it begins to lose or to gain time; it becomes unreliable and you fear it is worn out. But a watchmaker cleans and oils it, and it runs again as well as before. So it is with a disordered brain. There is a physical change; if inflammatory, there is fibrinous exudation. A large proportion of cases of insanity is due to intense absorption in business, emotion, and excesses in eating, drinking, etc.

Dr. Eichberg said that it is not unnatural that we are unable to discover the inflammatory changes in the brain. They are so minute as to elude our search. But they will be discovered; for the much grosser, larger pathological conditions of white swelling and some other morbid process have been known but a dozen years, although much longer ago scientists were studying and investigating the processes.

Dr. DeWitt said in regard to the etiology of insanity that the causes are classed as somatic, numerous and often questionable in their influence; and psychical, which are more certain and constant causes of the conditions.

But, at the root of all mental disorders, there are some structural conditions to account for the outbreaks. The brains examined in the post mortem room of an asylum do not differ in appearance from those in an ordinary general hospital. The great barrier to the advance of knowledge in insanity is due to our inability to get an accurate previous history of the patient; his friends are reticent, feeling that insanity is something of a reproach to a family, whereas it is really a condition that demands our pity. Thus our only avenue to the study of the disorder is cut off. Seventy per cent. of the cases of insanity are hereditary. In the speaker's opinion the disease appears to be due to trophic changes, the vaso-motor paralysis as well as other symptoms point to this. But this disease does not depend upon inflammation; for careful post-mortem examination revealed nothing different in these brains from what is found in normal brains. In very many no lesion whatever can be found.

Report of Case.

Dr. Taylor said he was now able to finish the history of the patient mentioned a week ago. The woman died last Friday evening, having had entire relief from the dyspnœa ever since the discharge of pus from the mouth. No post-mortem examination could be had, but the case was evidently one in which the site of the difficulty was in the mediastinum; probably an abscess in an enlarged bronchial gland in this region. The direct cause of death was exhaustion.

Meeting of May 13th, 1884.

P. ZENNER, M.D., *Vice-Pres't in the Chair.*
W. H. M'REYNOLDS, M.D., *Secretary.*

Small Doses Frequently Repeated.

Dr. John L. Davis read an essay on the above subject. (See page 636).

DISCUSSION.

Dr. Zenner complimented the essayist upon his very flattering success in the use of small doses, but thought the number of his cases too small to determine the value of this mode of using remedies.

Dr. McReynolds said he was in the habit of using the mercurials in smaller doses than those of the essayist and at longer intervals in the diarrhœas of children and had good reason to be satisfied with the results.

Dr. Thompson asked the essayist if he had tried small doses in the exhausting diarrhœa occurring in the course of Bright's disease; he had failed with small and large doses and found nothing to control it but the free use of opium.

Dr. Fisher said it was fashionable now to give small doses of medicine and, it was claimed that their efficiency was not less, but even greater than large ones, but all the cases mentioned by Ringer and Fothergill belong to this class of nervous diseases, cases which would in all probability, terminate in recovery just as soon without any medication whatever. Small doses of mercury act so beneficially because this drug is a powerful germicide. The dose, however, of the essayist, one-eighth of a grain, is not by any means a small one, neither are the doses in which he recommends the use of the arsenical preparations. Small doses of belladonna, iodide of potassium, and the other remedies mentioned, simply act upon the imagination of the patient, serve as a sort of faith cure.

Dr. Zenner thought that in some of the writer's cases of headache the benefit of the repeated doses was only by the impression produced upon the mind of the patient, but if small doses of atropia, belladonna and such powerful drugs act as well as stated, it is important, as it greatly diminishes the danger in their administration.

Dr. Eric E. Sattler reported the following case of

Trigeminal Anæsthesia with Paralysis of the Superior Oblique Muscle.

James D., æt. 41, married, heavy drinker for years; great smoker; completely abstinent for last six or seven months. Has led a more or less dissipated life in various parts of the world. Denies specific taint; no venereal disease whatever, no secondary signs manifest at any time. Family history negative. About ten weeks ago he noticed that he saw double, especially when looking down and to the right; he paid little attention to this, thinking it would pass away. Instead of doing so however it became more marked, so that he was scarcely able to walk. In walking he would see two curbstones, four street-car tracks, etc. In eating he would see two knives and two forks, two cups, two plates, etc., which condition became at last so intensely annoying that he sought for medical relief. He had noticed, too, that the left side of his face was not as it ought to be. When he brushed his hair on that side it felt dead, his face felt as if asleep, "pins and needles" sensation marked. He could not feel the razor when shaved on that side. He consulted my brother, Dr. Robert Sattler, for the diplopia, who found, as a cause, a paralysis of the superior oblique, and kindly referred the case to me. On examination the whole area of the face and scalp of left side supplied by the trigeminus was found anæsthetic. The mucous membrane of the eye, the left nostril, and the left side of buccal cavity and tongue, the upper, anterior part of ear, and the skin of the left side of the face were all affected. He could not differentiate heat and cold in left side of buccal cavity, and taste was somewhat impaired on that side of tongue. On account of this loss of sensibility of the mucous membrane of the buccal cavity, it was difficult for him to eat on the affected side. Complains of slight pain in occipital region, but not intense and steady. No other general symptoms. Tendo patellar reflex normal, both sides. No paretic symptoms in any extremity. Facial muscles intact. Fundus normal. General health excellent. Side of face affected feels cold and is somewhat puffy. Finds that when he perspires he does so entirely on the unaffected side. No trophic disturbances.

He was placed on a pill containing one-sixteenth grain of bichloride of mercury and fifteen grains of iodide of potash three times a day in solution. The dose of the iodide was soon after increased to twenty grains and a few days later to twenty-five grains three times daily. At the same time the Faradic brush was applied to the anæsthetic side of the face and the Galvanic current (four to six cells) to the paralyzed oblique muscle. About ten days after some improvement was noted. He saw double less persistently, and sensibility seemed to be returning on the side of face affected. The iodide of potash was gradually increased from thirty to forty, to fifty, and at last to sixty grains three times a day, a total of 180 grains of iodide of potash a day. Improvement now was manifest daily. He saw double less and less often and would now go almost an entire day without seeing double once. Sensibility returned gradually, and to-day is completely restored. He still occasionally sees double, especially when fixing objects for any length of time. At present time, diplopia entirely gone. His general health remained perfect, appetite enormous, has gained some five or six pounds in weight. Not a single manifestation of iodism, although taken for almost two months every day in large doses.

Remarks.—We have to do in this case, without much doubt, with an affection at the base of the brain encroaching on the patheticus and the sensory branch of the trigeminus. As Romberg says, "If the anæsthesia of the fifth nerve is complicated with disturbed functions of adjoining cerebral nerves, it may be assumed that the cause is seated at the base of the brain. As to the nature of this cause we can only conjecture. The complex of symptoms, according to Von Græfe and Mauthner, are characteristic of syphilitic taint (although positive syphilitic manifestations are generally wanting). In this case, there were absolutely no specific symptoms, and yet probabilities are for a gummatous growth or growths at the base of the brain. The good result from the persistent use of the iodide might also aid somewhat in this diagnosis.

COUGHS.—In the *Lancet*, Dec, 1883, p. 1054, an article appears, entitled 'Coughs,' which are defined as convulsive expiratory efforts intended to eject from the air-cells or passages of the lungs, or from the windpipe or larynx, either secretions or exudations, or occasionally foreign substances, which impede the act of respiration. Very grave mistakes are made in practice by treating cough as a pulmonary affection. In a large number of cases, its cause is extrapulmonary. Cough is always a nervously induced phenomenon, and as such ought to be treated with the utmost carefulness, so as to ascertain its cause, the proportional relation which subsists between need and effort, and where need really exists.—*The London Medical Record.*

REMOVAL OF WARTS.—Dr. Et. Guénot reports (*Bull. Gén. de Thér.*) that he has removed a large crop of warts, occurring on the hands of a patient by giving daily a ten grain dose of calcined magnesia in the morning before breakfast.

THE CINCINNATI
LANCET AND CLINIC
A Weekly Journal of
MEDICINE AND SURGERY,
ISSUED EVERY SATURDAY.

TERMS, $3.50 PER ANNUM IN ADVANCE.

☞All letters and communications should be addressed to, and all checks, drafts, and money orders made payable to
DR. J. C. CULBERTSON,
EDITOR AND PUBLISHER,
281 W. 7th STREET, CINCINNATI, OHIO.

SUBSCRIBERS TO THE LANCET AND CLINIC who have not already remitted their subscription will confer a favor on the publisher by promptly doing so.

Cincinnati, May 24, 1884.

The Week.

ACADEMY OF MEDICINE.—At the next meeting, May 26th, the following cases will be reported: "Muscular Sarcoma," Dr. P. S. Conner; "History of a Case of Inguinal Hernia," Dr. C. F. Locke; "Area Celsi," Dr. A. Ravogli.

A HYDROPHOBIA ANTIDOTE. — It is well known to those who are interested in scientific investigations pertaining to infectious diseases that M. Pasteur has given special attention to the discovery of an antidote for hydrophobia. The Cincinnati *Commercial-Gazette*, of May 20th, contains the following interesting cablegram announcing the result of M. Pasteur's labors:

PARIS, May 19.—M. Louis Pasteur, the celebrated French chemist, claims to have made a discovery of the most vital importance — nothing less, in fact, than a complete cure, or rather antidote, for hydrophobia. In an interview with a *Figaro* correspondent, M. Pasteur says:

"Cauterization of the wound immediately after the bite, as is well known, has been more or less effective, but from to-day anybody bitten by a mad dog has only to present himself at the laboratory in the Ecole Normale, and by inoculation I will make him completely insusceptible to the effects of hydrophobia, even if bitten subsequently by any number of mad dogs. I have been devoting the last four years to this subject. I found out in the first place that the virus rabique loses its intensity by transmission to certain animals, and increases its intensity by transmission to other animals. With the rabbit, for instance, the virus rabique increases, with the monkey it decreases. My method was as follows: I took the virus direct from the brain of a dog that has died from acute hydrophobia. With this virus I inoculated a monkey. The monkey died. Then with the virus, already weakened in intensity, taken from this monkey, I inoculated a second monkey. Then with the virus taken from the second monkey I inoculated a third monkey, and so on, until I obtained a virus so weak as to be almost harmless. Then, with this almost harmless virus, I inoculated a rabbit, the virus being at once increased in intensity. Then with the virus from the first rabbit I inoculated a second rabbit, and there was another increase in the intensity of the virus. Then with the virus of the second rabbit I inoculated a third rabbit, then a fourth, until the virus had regained its maximum intensity. Thus I obtained virus of different degrees of power. I then took a dog, and inoculated him first with the weakest virus from the rabbit; then with the virus from the second rabbit, and finally with the rabbit virus of maximum intensity. After a few days more I inoculated the dog with virus taken directly from the brain of a dog that had just died of acute madness. The dog upon which I had experimented proved completely insusceptible to hydrophobia. The experiment was frequently repeated, always with the same successful result.

"But my discovery does not end here. I took two dogs, and inoculated them both with virus taken directly from the brain of a dog that had just died of acute hydrophobia. I let one of my two dogs thus inoculated alone, and he went and died of acute hydrophobia. I subjected the second dog to my treatment, giving him the weakest, and ending with the strongest. This second dog was completely cured, or rather became completely insusceptible to hydrophobia."

M. Pasteur then went to a kennel and caressed a dog that had undergone this latter operation. "Vayezy," said M. Pasteur "comme il est bien gentil. Whoever gets bitten by a mad dog has only to submit to my three little inoculations, and he need not have the slightest fear of hydrophobia."

THE KENTUCKY STATE MEDICAL SOCIETY. The twenty-ninth annual meeting of the Kentucky State Medical Society will be held in the city of Bowling Green, Ky., from 12 o'clock M. of Tuesday, June 3, 1884, to Thursday, June 5, 1884, inclusive.

Reduced railway and hotel rates will be secured by the Committee of Arrangements.

The Society has reason to felicitate itself upon the prospect of a large and representative attendance, and the presentation of many essays upon scientific and practical subjects.

Members are requested to contribute papers upon subjects of their own selection, and I will thank the authors of such papers if they will send me by the 20th of May the titles, so that no paper may be omitted from the programme.

S. M. LETCHER, M.D.,
Permanent Secretary.
J. N. MCCORMACK, M.D., President.

Selections.

MEDICINE.

INTERMITTENT PARAPLEGIA. — In the *Vratch* (1882, No. 32, p. 537), Dr. Shakhnovitch describes a very interesting case of a patient, æt. forty-four, of a strong build, with a powerfully developed muscular system, of splendid general health, who for twenty-five years has suffered from intermittent paraplegia. The patient's father had the same curious affection, and, as the author alleges, succumbed in his fifty-fourth year exclusively from increase in the frequency of the paralytic attacks. The patient's brother is epileptic. According to the patient's assertions, the first paralytic attack appeared a few hours after exposure to cold. The attacks come in intervals varying from a few hours to two months; they commence invariably during sleep. He awakes, already struck by complete paralysis in all four extremities, consciousness being perfectly retained, and no pain or unpleasant sensations being felt. Speech, sight, hearing, smelling, and taste; tactile, painful, and thermic sensibilities, and the bladder and rectum, remain thorougly normal. Reflexes are abolished; the muscles of the body and extremities are stiff and hard to the touch. By the end of from three to twelve hours the patient falls asleep, and on waking feels only numbness in the extremities, which passes away in about two hours, or—when he begins to make energetic movements, or undergoes shampooing—in half an hour. The patient is intelligent and cheerful, and leads a very active life. He never suffered from malarial fever, therefore his case can not be placed together with the cases of intermittent paraplegia, published by Hartwig, Macario, Romberg, and Gibney (see the *London Medical Record*, July, 1882, p. 291). Dr. Shakhnovitch thinks that he has discovered a new form of neurosis, which he proposes to call "paraplegia spinalis intermittens nervosa."—*London Medical Record.*

THE USE OF ACHILLEA MILLEFOLIUM IN LEUCORRHŒA.—Dr. Lvoff (*Vratch*, 1884, No. 2, p. 28) says that Achillea Millefolium (of fam. *Compositæ*, trib. *Senecionideæ*), an old popular remedy, displays a decidedly beneficial action in cases of simple (non-gonorrhœal) whites in children and adult women. His statement is based on the administration of the plant to thirty-four patients, twenty of them being aged from 7 to 15, seven from 16 to 20, and seven from 20 to 30. An infusion of summits or flowers was used. In an editorial note, Professor V. A. Manassein states that, according to Annenkoff, the leaves and flowers of Millefolium possess tonic and stimulating properties, and are used in atony of the digestive organs, in cases of hæmorrhoidal and uterine hæmorrhage, in dysmenorrhœa, mucous whites, chlorosis, etc. Ronzier-Joly praised the remedy as an emmenagogue (10 grammes to 500 of boiling water). Chomel and Hufeland gave it as an antispasmodic and in amenorrhœa (20, 30 to 1000). Zanoni prepared from millefolium a bitter alkaloid-like principle, achilleine, which was later studied by Planta, and was recommended as a remedy for intermittent fever by Puppi.—*The London Medical Record.*

ITCHING IN BRIGHT'S DISEASE.—Mathieu (*Thèse de Paris*, abstract in *Journal of Cutaneous and Venereal Diseases*, vol. i., No. 10) states as follows: 1. During the course of Bright's disease itching is experienced unconnected with any cutaneous eruption, and sometimes invading every portion of the integument. 2. This symptom may be described as occurring in three different forms—first, as itching; secondly, as horripilation; thirdly, as formication. 3. These sensations are a frequent accompaniment of Bright's disease. They are complained of at various periods. They may be felt both at the onset and during the course of the confirmed malady. 4. When met with at the commencement, they rank as an important symptom, and one of great semeiological value. They coincide at this period with the frequent micturition, the cramps, the palpitations, the disorders of hearing, the epistaxis, etc.; and may precede the appearance of œdema and albuminuria, thus serving without any other aid to place the physician on the right diagnostic track. 5. Coming on at a later period, they merely constitute an additional and conjoint symptom of the disease. 6. The pathology of this phenomenon is as yet based upon hypothesis. It represents a disorder of the sensory sphere, due probably to the irritation produced at the terminal extremities of the nerves by refuse material retained in the blood through failure of the eliminative functions of the kidneys.—*London Medical Record.*

MERCURIAL TREATMENT OF DIPHTHERIA.—Dr. Koszutski, of Posen, has tried the mercurial treatment of diphtheria in his clinic, after the following manner (*Wiener Med. Blatter*, Jan. 10). He makes his patients gargle with a five to ten per cent. solution of chloride of sodium, which is injected by means of a syringe into the pharynx of children. This is partly for cleansing purposes, and partly in order that the mercury may subsequently act in the form of nascent sublimate. This it does when calomel is blown in the throat, where part of it unites with the salt to form sublimate, and part acts in the form of calomel. One to four decigrammes of calomel (1½ to 6 grains) is thus introduced. The diphtheritic membrane shrivels up and is ejected, sometimes within twenty-four hours, and a local return of the affection has not been observed.—*The London Medical Record.*

ALCOHOLIC LEG-PAINS.—Dr. Clifford Allbutt, in the *Brit. Med. Jour.*, Feb. 1884, p. 397, writes that tibial pains are very characteristic of chronic alcoholism. These pains are commoner in women than in men, and occur also often about the ankles and feet. They are usually associated with marked cutaneous hyperæsthesia. Dr. Allbutt has diagnosed in women many a case of secret drinking by these pains alone, and has little doubt that the cause of them lies in an irritation of the spinal cord or its membranes.—*The London Medical Record.*

Broca and Wins on the Treatment of Phthisis by Overfeeding.—The authors believe with M. Debove that anorexia is one of the chief causes of exhaustion in phthisis, and that a systematic overfeeding (suralimentation) of consumptive patients by means of the stomach-tube exercises a most beneficial influence on the disease itself. Nitrogenous food is the best, especially milk, eggs, and meat-powder. The quantity introduced into the stomach at a time must never exceed one litre. The results of this mode of treatment are given by authors in the *France Médicale* (February 1884). In most cases the food was well digested, the perspiration, cough, and dyspnœa diminished, and the patient increased in weight. In several cases the signs of excavations in the lungs became less distinct, though they never disappeared entirely.—*The London Medical Record.*

Veratrum as an Antaphrodisiac.—There is no condition or symptom among the many painful and disagreeable attendants upon blennorrhagia that is more distressing to the patient than that known as chordee. This is especially true in first cases—the introduction, so to speak, of the patient to the malady. It generally comes on at night, is so horribly painful, and recurs with such persistence as to render life, for the time being, a burden. The usual remedy in such cases—the stereotyped one, we may say—is opium combined with camphor. In addition to the fact that it is inefficacious, unless given in large doses, it has the usual disadvantages attendant upon the use of opium—it constipates the bowels, and is liable to produce headache and nausea during the ensuing day. In the tincture of veratrum viride we have, however, an agent against this "terror of the night" that is not amenable to these objections. If given in doses of fifteen to twenty minims, at bed-time, priapism will rarely occur during the night. If it does occur after exhibiting the remedy in this dose, increase the dosage a drop or two at a time until the desired result is attained. The dose is a large one, but one which is tolerated under the circumstances, and which rarely fails to afford relief.—*St. Louis Druggist.*

On the Treatment of Ozœna.—The *Centralbl. f. d. Gesam Therapie.* of Feb'y, 1884, contains an article on the treatment of ozæna, by Dr. Roth, of Vienna. He objects to the general use of the term, as applied alike to all the conditions which may cause the particular symptom, and he would use the term ozæna only for what he calls the genuine variety, characterized, not by any decay of the bones or soft parts, but by hyperæmia, and hypertrophy of the mucous membrane, with increased quantity and diminished fluidity of the secretion, which rapidly dries and hardens into cakes. The mucous membrane is often found in parts in a state of atrophy, which seems to be the secondary condition of the foregoing hypertrophy; and this atrophy may extend to the turbinated bones, which will then present no trace of their previous form of structure. The fœtor results from the access of germs to the secretion, as has been proved by experiment. When the anterior and posterior nares have both been stopped, so that no air has been permitted to enter, the fœtor has failed to appear, but has been detected after the secretion has been exposed to the air for some time, when miccrococci and bacteria have been found in it in great numbers. The proper name for such an affection is rhinitis chronica atrophicans fœtida, and the indications of treatment are to loosen and remove the secretion, to restore the mucous membrane to its normal condition, to remove the odor, and to cure any prevailing dyscrasia. Dr. Roth effects those ends by means of plugs of cotton wool, charged with iodoform, which he introduces into the nostrils at night and removes in the morning. They act as a disinfectant, remove the secretion, and exercise salutary pressure on the mucous membrane, irritating it slightly, so that an increased quantity of blood is brought to it, and the secretion becomes more fluid. After the removal of the plug the nasal cavities are washed out with a solution of thymol, carbolic acid, or chlorate of potash, combined with alum or tannin, by means of a special nasal spray, which conveys the fluid to the very back of the nose. Special causes must be removed according to their indications, but in the case of tuberculous affections, the local treatment should be confined to disinfection, and reliance should be placed chiefly on general dietetic measures. Dr. Roth concludes by remarking that only those cases which come under treatment in the early stages of hypertrophy are curable, but that, unfortunately, this obstinate and peculiarly objectionable complaint is generally first seen when atrophy has already begun, and when the treatment of the fœtor is all that can be hoped for, until the mucous membrane, with its glands, is completely destroyed.—*London Med. Record.*

SURGERY.

Petrone on Muscular Atrophy from Acute Rheumatic Arthritis.—When an arthritis is established, the extensors are generally the first to be affected. This may happen in the first twenty-four hours, but generally in the second week. The paralysis is little manifest, since the muscles lose hardly any of their contractile capability. Often the paralysis precedes the atrophy; atrophy and paralysis do not always go *pari passu*; atrophy may be marked without any paralysis. The reason of this is unknown. While the paralyses and atrophies which follow traumatic arthritis may remain independent, in the rheumatic form the functional and nutritive disturbances are little apparent; they often go *pari passu;* and it is impossible to distinguish what belongs to the atrophy from what belongs to the paralysis. The state and intensity of the arthritic process, the age and sex of the patient, have no influence on the development of the atrophy. The great number of cases of atrophy were noticed after affections of the knee and shoulder, only because these joints are most frequently affected. The author (*Lo Sperimetale*, and *Aunali Univ. di Med.*, Nov. 1883) gives the results of his experiments on animals, which corroborate those of Valtat, which he also quotes. The knee or shoulder joints of dogs were injected with several drops of oil of mustard or of liquor ammoniæ. In all, rapid swelling of the joint ensued with atrophy. After death, the muscles surrounding the joint were found to be much smaller than those of the corresponding healthy joint. In the experimental lesion, the atrophy is apparently more rapid and extensive than in rheumatic arthritis in man. In the dogs observed by the author, the spinal cord and the nerves of the affected joints were quite normal; in the muscles, the signs of simple atrophy were only seen. The nature of the muscular atrophy in man is unkown. Debove relates one case of diffused muscular atrophy following chronic rheumatism, which was complicated with a true chronic interstitial myositis. The author combats some of the opinions held as to the pathogenesis of the atrophy. To the most common, that the atrophy depends on functional inertia, he objects that in paraplegia and hemiplegia of central origin the muscles, although paralysed, are atrophied slowly and less than in cases of arthritis. Moreover, the wasting of the muscules happens not only in grave and painful joint affections, but also in indolent hydrarthrosis; lastly, atrophy takes place too rapidly to be ascribed to inertia. From the acute course of the atrophy, and because in dogs he found no lesions of nerve or muscle, the author rejects the hypothesis of Sabourin and Revillout, according to whom the inflammation of the articular tissues, propagated to the nerves in the vicinty of the joint, is the origin of the atrophy of the muscles about the joint. The hypothesis of Vulpian and Charcot, that the articular nerves, irritated by the arthritis, determine in the point of origin of the nerve-fibres destined to the muscles a modification by which the activity of the anatomical elements of this part of the grey substance of the cord is weakened, he thinks has no anatomical foundation. To understand the mode in which the synovial inflammation interferes with the nutrition of the neighboring muscles, it is necessary to seek the anatomical relations between the articular tissues and the periarticular muscles. The treatment consists in the employment of permanent weak continued currents.—*The London Medical Record.*

Fermentation Processes in the Human Mouth and their Relation to Caries of the teeth.—Herr Miller read a paper on the above subject before the Hygienic Society of Berlin, on the 4th inst., in which he followed up the view first promulgated by him, that the first stage of dental caries was a decalcification of the dental structure produced by acids, which were mainly formed in the mouth as the product of fermentation processes, and that second stage was a destruction of the softened osseous structure by micro-organisms. The paper detailed his attempts to determine the nature of the ferment present and to isolate it; to ascertain the conditions of its activity as well as the products of it, and the best means of checking it, and finally his attempts to ascertain the influence of the various forms of bacteria that originate in the oral cavity, on certain special and general diseases. He has found that the ferment exists in the saliva, and that it results from the growth of two kinds of organisms which he has named *a* Milchsaürepilz and *b* Milchsaürepilz. He thinks these forms may really be one organism, but he has not yet succeeded in developing the one from the other The acid produced he has ascertained to be a lactate of zinc. He has succeeded in producing rapid caries of the teeth, through the action of the acid generated by the artificially cultivated leptothrix. He then sought for a germicide that would check or entirely prevent the growth of the acid forming organism. He found that the following substances possessed such a power:—Corrosive sublimate 1 in 500,000 checked the formation of acid, 1 in 100,000 completely destroyed it. Permanganate of potash 1 in 2,000 checked, 1 in 1,000 completely destroyed it. Carbolic acid 1 in 1,000 checked, 1 in 500 completely destroyed it. Salicylic acid 1 in 125 checked, 1 in 75 completely destroyed it. He thinks a solution of corrosive sublimate of the strength of 1 part to 5 or 10,000 would be a very effective mouth wash and one entirely free from danger. Of the other fungi appearing in the mouth, the author mentioned that of vinegar; and the hay bacillus. The latter was easily isolated and was of interest from the *role* it was suspected of playing in typhoid fever. The spores of the fungus remained capable of development after one hour's cooking in solution of meat extract, and also after longer retention in a ·3 per cent. solution of lactic acid. It was not impossible therefore that spores capable of development might find their way throught the mouth into the intestines. He had also met with scattered bacilli of the butyric acid fungus in the oral secretions, and many times a sarcina like alga of great resisting power. Bearing in mind the great number of intestinal affections in which fermentation played a part, he considered that the fungi originating such processes should be attacked in their place of origin.—*The Medical Press.*

Treatment of Irreducible Hernia, and an Improved Method of Adapting a Truss in all Forms of Hernia.—Mr. T. Bryant, in the *Brit. Med. Jour.*, February 1884, p. 307, remarks that many surgeons are apt to regard a hernia irreducible, and, therefore, irremediable, without giving it sufficient care and trial. A hernia which has been down some weeks, and where no adhesions have formed, may be reduced by adopting rest in the recumbent position, associated with limited diet and the administration of small and repeated doses of saline purgatives, together with the local application of cold to the hernial protrusion. This treatment, to be effectual, should be persisted in for days, and, in some cases, for weeks. If no reduction be possible, the following plan is advised. A plaster-of-Paris mould of the hernia and the parts around its neck is taken. From this mould a 'cast' is made. Upon the 'cast' a metal plate of tin or copper is moulded and covered with washleather; it has then simply to be fixed to a spring or belt, and the instrument is complete. It forms a most efficient protection to the hernia, and keeps it in its place with great comfort to the wearer.—*The London Medical Record.*

Total Transposition of Organs.—Dr. P. Guttmann, of Berlin, demonstrated a preparation from a case of complete transposition of viscera before the Berlin Society for Medicine (Junere Medizin) on March 17th. The case was that of a man, 62 years of age, who died of tuberculosis. The diagnosis was made during life, and completely verified by the preparation shown. Even to the most minute details the transposition was complete. Attention was first drawn to the irregularity by observing that the heart pulsated on the right side, percussion then showed that the liver was on the left, and the spleen on the right. Œsophageal auscultation demonstrated that the cardiac orifice of the stomach was on the right and the stethoscope showed that the lungs were also transposed. Dr. Guttmann had met with records of fifteen similar cases, and in all of them except two the individuals that were the subjects of the abnormality were righthanded, showing that the view held by some that such were generally left-handed was not borne out by facts.—*The Medical Press.*

Barette on the Treatment of Fissure of the Anus by Dilation.—This method is discussed at some length in the *Revue de Thérap.* for Feb. 1884. Gradual dilatation is not recommended by the authors, but forced and rapid dilatation is said to give excellent results. The index fingers may be used for the purpose, but the thumbs are generally too short. Molliere, Verneuil, Treélat, and others, make out of expanding specula of various forms. An enema must be given on the day before the operation, and the administration of an anæsthetic is generally advisable. The dilatation is known to have been sufficient when two fingers can be introduced together into the the rectum without feeling of resistance. The patient can resume his occupation after two days. Incontinence of fæces does not occur after rapid dilatation.—*The London Medical Record.*

MISCELLANY.

The Therapeutics of Early Rising. The subject of early rising has a physiological and a therapeutical aspect.

It may be laid down as a general proposition, applicable to the great majority of men, women, and children in health, that the proverb "early to bed, early to rise," etc., embodies sound common sense, and is safe to follow, enabling those who conform to it to perform the greatest amount of work of which they are capable with economy of time, of eyesight, of nervous energy, and of the general health.

The tendency of modern civilization has been to lead people greatly to disregard nature's law (to which the inferior animals generally conform), whereby night is the time for rest, and day is the time for toil. This law is the result of natural selection, as pointed out by one of its great apostles. An animal so constituted that waste and repair were balanced from moment to moment throughout the twenty-four hours would, other things equal, be overcome by an enemy or competitor that could evolve greater energy during the hours when light facilitates action at the expense of being less energetic during the hours of darkness and concealment."

Early rising is the proper sequel of early retiring, and when recommended as a hygienic rule it is with the presupposition that ample time—which with every individual is a fixed quantity—shall have been devoted to sleep.

The majority of laboring people, in accordance with the necessity in most adults for about eight hours' sleep a day, have wisely chosen the period between nine o'clock in the evening and early morning, and farmers who, retiring in the summer at dark, arise at daybreak, testify to the extraordinary salubrity of the morning air. The atmosphere then is cooler and more invigorating, more heavily charged with oxygen, than later in the day when rarefied by the heat of the sun. There is no time so favorable for exercise, as students well know who are in the habit of taking long walks or practicing gymnastics in the morning before breakfast. An hour spent in exercise at this time of day will fortify a student more than two hours of bodily training at midday, and this season should be chosen for physical rather than for mental exercises.

If .sufficiency of sleep necessary, excess of time spent in repose is enervating and harmful; it promotes languor of the circulation, and thus induces torpor and congestion of the viscera; it interferes with the energetic performance of the respiratory function, on which the due oxygenation of all the tissues depends; muscular tonicity and nerve nutrition are also enfeebled by prolonging the season of sleep.

From what has been above said it may be inferred that in pathological states characterized by deficient metabolism of nitrogenous waste elements, where, in common parlance, the biliary function is said to be deranged, early rising, with exercise in the open air, will be of powerful therapeutic efficacy. The blood is charged with the products of defective oxidation, the result of over-eating or over-work (or both combined), and all the symptoms of liver indigestion ensue. Here the best hygienic advice is that of old Dr. Abernethy, "An axe, a cord of wood, and five o'clock in the morning!" Under this regimen the "biliousness," with its attendant headaches, malaise, loss of appetite, etc., will often disappear as if by magic. If it is "the early bird" that catches "the worm," it is the early bird that can digest the worm. Dr. Abernethy's advice applies to many cases of simple dyspepsia, which will be more speedily and permanently benefitted by early rising than by wine bitters and pepsine; it may also be indicated in gout and diabetes, which are diseases of mal-nutrition.

As for nervous disorders, those characterized by spasm are, as a rule, more amenable to this kind of hygiene than paretic diseases, a recumbent posture increasing spinal reflex activity. Epilepsy and hysteria have both been benefitted by the establishment of correct habits of sleep and by early rising, and to a certain class of debilitated young men (with whom every physician has much experience) no counsel is more important than to rise as soon as the first sound sleep is over. As for cases characterized by exhaustion and loss of power (neurasthenia and the paretic diseases of the nervous system), long-continued rest is often the only treatment that does any good. The damaged nervous elements have lost the power of rapid recuperation under sleep, and early rising would, in such patients, be a cruelty if not an impossibility. Reserve force is lacking, and morning weariness is often overpowering. Other persons are neurasthetic from want of a proper hygienic education, and cannot be too much exhorted to curtail the hours devoted to enervating inaction. To such patients the effort, persisted in, of early "springing from the bed of sloth," and engaging in some energetic occupation, is a victory over their infirmity.

In anæmia and chlorosis a "morning air bath as Dr. Franklin styles it) is often more beneficial than a course of iron and arsenic.

The victim of insomnia must sometimes, perforce, lie abed in the morning; hours lost in vain attempts to go to sleep may be partially made up by prolonging the season of rest, and subsomnolent states are, as Dr. Crichton Browne observes, the next best thing to sleep. For the great majority, however, of people who are not bedridden a matutinal walk is better than medicine.—*Boston Med. and Surg. Journal.*

THE MEDICAL WOMEN OF PHILADELPHIA. — What the code has been for the New York County Medical Society, the Medical Women Question is for that of Philadelphia. The ladies, it is said have adopted the policy of presenting themselves as candidates, one at a time, and as this brings a new applicant at each meeting, it forces the opposition to turn out regularly every week, in consequence of which the attendance is phenomenally large.—*N. Y. Med. Record.*

THE HARVARD MEDICAL SCHOOL.—It is announced that Dr. Robert T. Edes has been appointed professor of clinical medicine, to succeed the late Dr. Calvin Ellis.

Bibliography.

EPITOME OF SKIN DISEASES.(1)

This little work of 240 pages is divided into three parts, viz.: General Observations on Skin Diseases, 50 pages; The Description and Treatment of Skin Diseases, alphabetically arranged, 160 pages; Cutaneous Pharmacopœia, 30 pages.

The work is necessarily much condensed and as a consequence not quite so clear in some of its descriptions as desirable. The author's peculiar ideas are pretty well set forth in the brief space, so that to those who do not have his larger work a clear understanding of his general view may be here had. For those of limited time the book is a valuable one.

LEGAL MEDICINE.(2)

We have already favorably noticed the two preceding volumes of Tidy's Legal Medicine. This is the January number of Wood's Library of Standard Medical Authors. The contents embrace a pretty thorough exposition of the following heads: Legitimacy and Paternity; Pregnancy–Abortion; Rape–Indecent Exposure; Sodomy–Bestiality; Live Birth–Infanticide; Asphyxia–Drowning; Hanging–Strangulation; Suffocation.

The binding is an improvement on any of the preceding numbers.

This concludes a very thorough exposition of legal medicine and the volumes are well worthy of perusal and a place in every physician's library.

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1 Epitome of Skin Diseases, with Formula, for Students and Practitioners. By the late Tilbury Fox, M.D., F.R.C.P., and by T. Colcott Fox, M.B., M.R.C.P. Third American Edition. Revised and with Additions. By T. Colcott Fox B.A. (Cantab.), M.B. (Lond.), etc. Philadelphia: Henry C. Lea's Son & Co. 1883.

2 Legal Medicine. By Charles Meymott Tidy, M.B., F.C.S., etc. Vol. III. New York: Wm. Wood & Co., 56 and 58 Lafayette Place. 1884.

Original Articles.

SURGICAL DELUSIONS.

An Abstract of the Address in Surgery of the Medical Society of the State of Pennsylvania for 1884.

By JOHN B. ROBERTS, M.D.,
Professor of Anatomy and Surgery in the Philadelphia Polyclinic.

Many surgical theories and procedures have become traditional and are accepted as true and correct merely because reverence for antiquity or careless acceptance has not questioned their right to be classed as surgical facts. The present age is an incredulous one and demands accurate investigation of all such claims. The field of investigation is large for progress has been retarded by the influence of theorizing writers with monochromatic vision, the example of non-seeing and non-looking devotees of the fetiches of surgical superstition, and the convincing effect of a repetition of false statements. I shall select a few topics which have greatly interested me and concerning which I probably differ quite widely from many of you.

Chloroform Anæsthesia.—Many still cling to the delusion that chloroform is a safe anæsthetic; because they have never seen a patient die from it. Is one man's experience to weigh against the physiological, the experimental, the clinical experience of the whole world? Dare we employ chloroform instead of ether when recognized authorities state that in chloroform anæsthesia death occurs without warning in the hands of experienced administrators, when some five hundred deaths have already been reported, when Schiff and Dalton reject it in physiological laboratories because of its mortality, when the Scientific Grants Committee of the British Medical Association assert that chloroform is a more dangerous anæsthetic than ether? Adherence to chloroform in the face of such facts is criminal when circumstances permit ether to be obtained. The assertion that it is often impossible to produce anæsthesia with ether is the result of inefficient methods of administration. Ether, if given as chloroform is and should be given, is in truth a useless anæsthetic, but given properly it is efficient.

Value of Styptics.—The belief in the necessity of styptics is a delusion less dangerous than that just mentioned, but is given more extended credence. Such agents are seldom, probably never, needed in general surgery to arrest hemorrhage. When ligatures, torsion or acupressure is not demanded (and such is seldom the case where the artery is as large as the facial), moderate direct pressure applied in dressing the wound is the only hemostatic required. Styptics often do harm, and, as they are not needed, they should be discarded.

Fatality of Small Hemorrhages.—There is much misapprehension about the quantity of blood that a healthy man can lose with impunity. Many who often look with equanimity upon a parturient woman losing a pint of blood from the uterine sinuses would be dismayed at a man losing half or quarter that amount during removal of a tumor. While not advocating needless waste of blood, and especially in patients suffering surgical shock, I assert that there is an unnecessary fear of blood spurting from a few insignificant vessels. The largest artery can be controlled by pressure not greater than is used for ringing the electric bell in your hotel. Hence there is always sufficient power in your fingers to obviate fatal hemorrhage until strings can be obtained and applied.

Danger of Trephining the Skull.—The dislike to make exploratory incisions in closed fractures of the skull evinced by some surgeons and the objection of others to trephining, and thus opening the diploëic structure in open fractures, are delusions of a most disastrous tendency. To wait until symptoms of cerebral compression or inflammation have supervened is to lose the most favorable opportunity for mechanical relief. Such a Fabian policy is often followed by death. The treatment of open and of closed fractures of the skull should not be looked upon as very different, since with the present improved methods of dressing wounds the successful issue depends almost entirely upon the cerebral rather than the cranial phase of the injury. If such fractures as we usually see in the skull were not in proximity to the brain the surgeon would consider them almost trivial. The feature of closed fractures that renders them so troublesome is the obscurity that accompanies them. I have, for a number of years, strongly advocated making closed fractures open ones by means of an exploratory incision whenever there is a suspicion of the existence of depression or splintering. In open fractures operation to elevate depressed portions and get rid of splinters of the inner table thrust into the membranes should be undertaken rather than avoided. It is better to err on the side of action than that of inaction. Careful manipulation of proper dressings at an early stage are sources of less risk than is incurred by the surgeon who leaves unseen and unsuspected fragments thrust into the membranes or brain.

Operative Delay in Strangulated Hernia.—A similar delusion of fatal issue is that leading to postponement of operative interference in strangulated hernia. Repeated attempts at forcible taxis and medical pow-wow-ing with temporizing measures have ended more lives than the use of the knife. Herniotomy done within twelve hours is almost always followed by recovery. Death is to be expected, however, if strangulation has existed for two or three days; and the gut has been bruised by violent manipulation in the endeavor to relieve the constriction by taxis. Moderate taxis under ether, a half day's treatment with cold applications and the internal use of morphia, and a second moderate attempt at taxis, followed, if unsuccessful, by immediate operation, is the sequence to be followed in strangulated hernia. When symptoms of strangulated hernia exist, the slightest fullness and tenderness in one groin over either of the rings is a sufficient localizing indication to warrant operation.

Operative Delay in Acute Phlegmonous Inflammation. — No insane delusion, no Spanish Inquisition ever caused so many hours of excruciating physical torture as the hallucination that acute abscesses and furuncles must not be incised until pointing has occurred. All the world knows that evacuation of imprisoned pus in phlegmonous inflammations means instant relief of the agonizing pain; yet how few of the profession early and freely incise such inflamed tissues unless they first see the yellow pus under the thinned skin or feel the fluctuation of the fluid in the abscess cavity. The pain is caused by the effort of the pus sloughing tissue to escape. Is it not then more rational to make a free incision to-day than to wait till next week? Time and pain are both saved by early incision. If the cut is made before the pus has actually formed so much the better. Probably no form of abscess needs early and free incision more imperatively than that under the palmar fascia. Destructive burrowing of pus is prevented by this radical procedure; which also saves the patient many days of poultices and purgatory.

Operative Delay in Malignant Tumors.—Much bad surgery results from a delusive postponement of operative interference in malignant diseases. Instant removal is to be practiced in such cases, provided the patient is deemed fit to stand the surgical shock.

Necessary Fatality of Traumatic Tetanus. That traumatic tetanus is of necessity fatal is a commonly held opinion. Proper treatment is sometimes neglected because of this belief in its hopelessness. That the prognosis is extremely unfavorable I admit, but that cases of a severe type recover is undoubted. Chloral hydrate in full doses has given the best results; but, I do not propose speaking of therapeutics at this time, I merely wish to impress upon the profession the fact that a fair number of cases of traumatic tetanus recover.

Fatality of Pericardial and Cardiac Wounds.—The prevalent notion of the excessive danger of these wounds is delusional, at least in as far as it teaches that these structures will not brook surgical interference. The pericardial sac should be dealt with exactly as the pleural sac by aspiration, incision, irrigation and drainage, according to the lesion. That simple puncture or aspiration of the heart itself is not accompanied by the expected risk to life has been pretty well shown, though I am not prepared to recommend its general adoption for trivial cardiac conditions.

Symmetry of Normal Limbs. — Another delusion, still existing in many minds, is that the lower extremities are usually of the same length. Clinical and anatomical investigation show that asymmetry in the length of normal limbs is of common occurrence. Therefore measurements of the legs in cases of fracture are of little value, since it is impossible to know whether it is the femur of a long or a short leg that is the seat of injury.

Uselessness of Treating Vicious Union of Fractures.—It is a fact not sufficiently appreciated that many cases of deformity from imperfectly treated fractures of long bones can be remedied by refracture. Over and over again have I seen cases of grave disability and deformity cured by the application of sufficient force to break the callus uniting the misplaced fragments. Five or six months is not too late to resort to this expedient for correcting what otherwise must be a life-long evidence of defective surgical attendance.

There are many other prevalent surgical delusions, such as that bony union of transverse fractures of the patella and of intracapsular fractures of the femoral neck cannot take place; that chronic purulent discharges from the ear do not need active treatment; that hypermetropia and hypermetrophic astigmatism can be properly estimated and corrected without paralyzing the accommodation; that it is improper to perforate the nasal septum in cases of great deviation; that crooked noses are not amenable to treatment; that corneal operations and cataract extractions should be treated by cotton padding and bandages to the eyes; that fractures should be treated with carved or manufactured splints.

While an earnest advocate of conservative and of reparative surgery, I believe that when operative surgery is demanded it should be aggressive. Delay, indecision and inefficiency impair the value of much surgical work and are often the legitimate result of a superstitious faith in delusive surgical dogmas.

Translations.

PROGRESS OF MEDICINE. — OPHTHALMOLOGY.

By C. W. Tangeman, M.D., Assistant to Prof. Seely's Eye Clinic.

Prof. Vincenzo Gotti reports a case of exceeding interest, in the instance of a barber who made application for relief at his clinic. He was in a very anæmic condition, he could scarcely move around. For a number of months past he had been losing blood from one eye every two or three days; not infrequently the hemorrhage was so profuse that in the morning the pillow was completely saturated. Both eyes appeared pefectly normal, but on careful examination a little dark spot was discovered on the lower tarsal conjunctiva. Slight irritation, by means of the finger-tips, caused a small stream of arterial blood to spurt from this little point. Cold compresses were made, but the hemorrhage was not arrested until caustics were used; the same treatment was repeated in a few days. For a few weeks everything was well when the hemorrhages set in again, but were promptly checked by caustic. The patient, up to this time, was very anæmic, but under tonic treatment he recovered rapidly.—*Schmidt's Jahrbücher.*

A Case of Cysticercus Cellulosæ of the Vitreous Humor.—N. W., aged 21, shoemaker by trade, two weeks previous complained of a disturbance of vision that looked like a veil before his eyes, but later it changed to the appearance of a double black ring. Examination with the ophthalmoscope showed a detachment of the retina at the upper and inner quadrant, from the centre of this protrusion the head of a cysticercus about to perforate the retina could be seen. In the course of a few days the parasite had escaped and was fully in the vitreous chamber.

Haase concluded to operate according to Græfe's method. The extracted parasite measured 16–17 m.m. Two weeks later the point of incision was distinctly seen with the ophthalmoscope, the retina and choroid had retracted at the margins of the wound. The patient now made a rapid recovery and obtained good vision. —*Schmidt's Jahrbücher.*

One-sided Xanthopsis due to Sunstroke.—A woman twenty-three years old, in the month of July was crossing the street near her residence, when she suddenly felt a severe pain in the head. She hurried home but she noticed that she saw all objects green and red. Two days later the optic nerve entrance of the right eye in its upper third showed a shining greenish mass. At the lower margin of the papilla there was a similar spot, but smaller. The left eye was normal; she could differentiate green from red, but such colors as blue, gray and yellow also appeared green to her. This condition continued for two months when it gradually disappeared. The peculiar appearance of the papillæ remained, so that the conclusion was that it was not a pathological condition at all.

The Effects of the Position of the Copy-Book on School-Children's Eyes. Schubert thinks that according to the position of the writing material the eyes will be affected. If the object of fixation lies to one or the other side, the eye nearest is used for fixation. The muscular contraction is greater, the intra-ocular tension is increased. The new school buildings of Nuremburg are constructed according to the most recent hygienic improvements in all respects. An examination of the different classes showed that there were 475 children who presented a difference of refraction in the two eyes. 308 were myopic in the right eye, while in 165 the myopia was more marked in the left eye. This could only be explained by the fact that the copy-book in German schools is turned toward the right side. Hahnel, Schneller and Forschutz also mention the same fact as a result of their investigations, but they cannot suggest how an alteration could be made unless the style of writing be changed.—*Bayer. Aertz. Intel. Blat.*

CAUSATION OF SEX.—A careful statistical study of the causation of sex has been completed by Dr. Schumann. His studies are based on the census of Norway and Alsace, the only ones in Europe which offered the necessary facts. His most important deduction is that both relatively and absolutely, the determination of sex is related to the vigor of the parent. Each sex has a tendency to reproduce itself, and the sexually stronger of the pair exerts the most influence. Males above 35 or below 25, beget more males than females; so also males living in cities are more apt to have female children than those in the country; facts which our author attributes to the greater debility of the fathers.

We do not pretend to dispute these facts, but the interpretation offered is not the only, perhaps not the most plausible one that could be made.—*Med. and Surgical Reporter.*

IMPOTENCE IN THE MALE.—Take strychinæ sulph., gr. j; acidi hypophos., dil., ℥j. M. ft. sol. Dose, ten drops three times a day before meals in a teaspoonful of the fluid extract of coca. I give this mixture for the reason that I know of no better tonic for the sexual organs, after the abnormal state of erethism into which they get by abuse has been relieved, than strychnia, hypophosphorous acid and coca. It is necessary, however, not to give it immediately before going to bed, as without this precaution it may produce seminal emissions.—*W. A. Hammond, M.D.*

THE CINCINNATI
LANCET AND CLINIC
A Weekly Journal of
MEDICINE AND SURGERY:
ISSUED EVERY SATURDAY.

TERMS, $3.50 PER ANNUM IN ADVANCE.

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DR. J. C. CULBERTSON,
EDITOR AND PUBLISHER,
281 W. 7th STREET, CINCINNATI, OHIO.

SUBSCRIBERS TO THE LANCET AND CLINIC who have not already remitted their subscription will confer a favor on the publisher by promptly doing so.

Cincinnati, May 31, 1884.

The Week.

OHIO STATE PHARMACEUTICAL ASSOCIATION.—Sixth Annual Session, held at Cincinnati, May 27, 28 and 29, 1884.

The Ohio State Pharmaceutical Association has now become a body of very favorable dimensions, numbering at least eight hundred members. The sixth annual session which has just closed has been one of considerable interest to the pharmacists, and has, to say the least, afforded the majority of them pleasure.

Comparisons are unpleasant forms of illustration, it is true, and yet we hope to be pardoned for referring the members of the Ohio State Pharmaceutical Association to the manner in which their medical relatives conduct their meetings. Laxity was the most striking feature in the programme followed by the pharmacists. The society invariably convened one hour after the appointed time, and business was transacted in a careless manner, at the expense of much time.

The papers read were, as a rule, brief, and elicited almost no discussion.

At the session of Tuesday morning an address of welcome to the metropolis was tendered by his Honor, Mayor Stephens.

Mr. George W. Merrell, of the Wm. S. Merrell Chemical Company, delivered the address of welcome on behalf of the profession of Cincinnati.

During all of the sessions, the pharmacy law recently passed in the State was frequently referred to with pride and gratification.

The regular scientific work of the Association was not reached until Wednesday afternoon, when a number of queries were responded to by the gentlemen who had accepted the task at the last annual session. Yet the most astonishing carelessness was shown in this regard by many of the members, in failing to respond.

The Queries were as follows:

1. "An examination of granulated and cut loaf sugar for glucose is desired." Mr. John Hœhn, of Cleveland, was given another year to prepare a report.

2. "Do the various fluid extracts of hydrastis canadensis, made without alcohol, contain all of the active principles of the drug?" Mr. S. J. Nicolay, of Hamilton, to whom the query was assigned, stated that he had found it necessary, on account of the paucity of the literature on the subject, to make a large number of original investigations, some of which he had not yet completed. He was given a year in which to prepare.

Mr. H. S. Biddell, of Cleveland, was granted further time on the query, "A comparative test of pepsins based upon coagulation of milk, in longer or shorter time, would be a more practical way of testing them. Is it possible to have as accurate results as with the old tests?

Prof. J. U. Lloyd, of this city, read a highly interesting paper on "Wanted? An inquiry into the formulæ used for making Jackson's cough syrup and neutralizing cordial, with a view to uniformity and a working formula?

This was followed by an excellent response to the query, "What are the various so-called amorphous alkaloids of Peruvian bark of the market?" by Mr. Virgil Coblentz, of Springfield, who also replied ably to query "Should commercial Hoffman's anodyne be sold in place of spiritus etheris compositus of the U. S. P.?"

The remainder of the twenty-nine papers announced in the programme were passed over or referred to future reading.

Thursday morning, the last session, was occupied with the transaction of business and the reading of a few papers.

After adjournment, the members of the Association were conveyed by carriages through the more desirable portions of Mt. Auburn, Walnut Hills and Clifton, and were served a lunch at the Zoological Garden at three o'clock.

On Wednesday evening an informal reception was given at the Grand Hotel. Thursday evening, a grand concert was held in Music Hall.

During the meeting more than two hundred new members were elected.

The next meeting of the Association will be held at Sandusky, the third Tuesday, Wednesday and Thursday of May, 1885, with the following officers:

President, John Weyer, Cincinnati; First Vice-President, Wm. J. Martin, Cincinnati; Second Vice-President, M. D. Fulton, Bucyrus; Permanent Secretary, Lewis C. Hopp; Permanent Treasurer, Charles Huston; Executive Committee, Thomas Johnson, Steubenville; F. A. Kautz, Cincinnati, and C. W. Tobey, Troy, O.

The most attractive part of the convention to one not immediately interested in the Association was the exhibit of pharmaceutical and allied preparations in the hall of the Natural History Society, adjoining the place of meeting. Most of the representative manufacturing establishments of the country were present. Among them, were Thorp & Lloyd Bros., W. D. Freeman, Perfumer, Wm. S. Merrell Chemical Co., and the Torsion Balance Scale Co., of Cincinnati; Schieffelin & Co., New York; Powers & Weightman, Philadelphia; Billings, Clapp & Co., Boston; McKesson & Robbins, and Seabury & Johnson, New York, and many others.

Some of these exhibits were truly artistic in design and reflected credit on the respective firms represented. The display of standard preparations made by the Wm. S. Merrell Chemical Co., of this city; Schieffelin & Co, McKesson & Robbins and Seabury & Johnson, of New York, were elegant; that of Thorp & Lloyd Bros. was large and attractive.

The members of the Association have reason to feel gratified with the attendance and general success of the meeting.

ACADEMY OF MEDICINE.—Next Monday evening, June 2d, Dr. A. B. Thrasher will read a paper on "Follicular Pharyngitis."

Selections.

MEDICINE.

PHOSPHATE OF LIME IN RACHITIS, ETC. — So far back as 1869, Dusart established the fact, in a valuable paper on "Medical Inanition" (*Arch. Gen. de Med. et de Chir.*), that the presence of phosphate of lime is necessary in the transformation of the albumen of aliments into cells and tissues; that the vitality and heat in animals are in proportion to the amount of calcareous phosphate they possess, and that when deficient in it, the tissues absorb from the skeleton the phosphate of lime which is indispensible to their existence, and draw from the fatty tissues the hydro-carbonic elements when these are deficient in food. The conclusion to be drawn from these facts is that calcareous phosphates are indispensible to animal life. If, then, from whatever cause, a waste occurs, disorders will follow, and restoration becomes urgent. Many years ago Piorry recommended phosphate of lime in pregnancy, rachitis, caries, osteomalacia, pneumo-phymatosis, etc., to assist the cretaceous transformation of the tubercles. It can be given with benefit to young children during dentition, in the form of lacto-phosphate, or of chloridic-phosphate, in doses of from one and a half to fifteen and a half grains. Moriès recommends it for wet-nurses in poor and populous towns, to prevent cacochymia and rachitis in infants. Gosselin and Milne Edwards (*Comptes Rendus Acad, des Sc.*, 1856) have, by experimentation and clinical observations, shown its value in treatment of fractures in the bones to be indispensible. Limbs broken in dogs of the same age and weight were put under the same *régime*, only phosphate of lime was mixed with the food of a number, in which cases the fracture invariably healed more speedily than in the others. In the former cases, when the animals were destroyed ossification was seen to be far advanced, while in the latter but a very slight development was observed. Milk contains a large proportion of phosphate of lime. It thus follows that if a child be deprived of it, rachitis may be the result, especially if there is a predisposition to that disease. The phosphate of lime and milk are clearly indicated as a remedy in such a case. By the use of them Blace and Riaut have obtained excellent results in similar circumstances. The usual treatment of scrofula and Pott's disease is a good, nourishing diet, exercise, sea and iron baths, quinine and cod-liver oil, but phosphate of lime combined with the *iodides* (?) will be found an invaluable auxilliary in these complaints. It is thus very useful in phthisis, in which it may assist in the cretaceous transformation of the tubercules, and will counteract defective nutrition and an excessive elimination in the urine of the phosphate of lime in the system. It will also act against abnormal sweating and intestinal secretions. We may add that in virtue of the phosphorus it contains, phosphate of lime will tend to strengthen the nervous system. — *Medical Press.*

SUBSTITUTE FOR NITRITE OF AMYL CAPSULES. — It must often happen to medical men, especially to those practicing in the country, that just when they want some nitrite of amyl capsules for administration in an urgent case, they find they are without them, and cannot obtain them without considerable delay. Although it is easy for the medical man himself to administer a few drops from a bottle by dropping, still it would be very dangerous to leave the bottle with the patient for self-administration, and, therefore, the remedy can not be employed till the medical man has again been summoned.

To provide for the above contingency, I

think the following plan will be found both convenient and economical. Some small, wide-mouthed bottles should be obtained, with closely-fitting corks, and in each bottle a little cotton-wool should be placed. All that is necessary is to drop the required dose into the bottle, cork it tightly and invert it. In this inverted position the nitrite of amyl will retain its properties unimpaired for a considerable time — for some months at least—and can be used by simply removing the cork, and applying the bottle to the nose of the patient.—R. L. BATTERBURY, M.D., Berkhampstead, in *Brit. Med. Journal.*

THE HÆMORRHAGIC DIATHESIS. — The recent bereavement in the Royal Family will naturally turn the attention of the medical public toward the constitutional affection to which the illustrious deceased was subject. There is no distinct mention of hæmophilia in any classical or mediæval writer. It has been suggested that Charles IX., of France, died of hæmophilia, but in the account of his examination after death, given by Bonetus, there is nothing to suggest such an idea, but rather that the cause of his death was phthisis. Bateman speaks, in his work on diseases of the skin, of a boy, whose case has been frequently quoted, whose skin was constantly covered with petechiæ, and exhibited purple blotches whenever he received the slightest blow, who died during a sudden attack of profuse pulmonary hemorrhage. Hæmophilia, as a rule, attacks the males of a family, leaving the females exempt, but genealogical records show the strong tendency which this disease possesses of dissemination into other families by intermarriage; sisters of "bleeders," marrying, have been repeatedly found to become the mothers of boys who were "bleeders" like their uncles, and of girls who were not "bleeders," but who bore male "bleeders" after marriage, and female children who perpetuated the disease from which they were personally free. A similar kind of perpetuation of a disease common in males, through female members of affected families, has been observed with regard to Duchenne's pseudo-hypertrophic paralysis, diabetes insipidus, and color blindness.

The pathology of hæmophilia or the hæmorrhagic diathesis, is still obscure. Dr. Percy Kidd, in one case, detected a peculiar appearance in the muscular coat of the arteries of a child aged six, who died in the Ormond Street Hospital in 1877, from hemorrhage from the mouth, after having been a "bleeder" for four years. It is very significant, with regard to a case of more immediate interest, that this child once struck his head against a wall, and the bruised place at once swelled to the size of an egg, and became purple, and at the same time he had considerable epistaxis, which was difficult to check. In such a case, intracranial hemorrhage might easily have been produced by a direct blow on the head, or even by indirect violence. Dr. Kidd detected a very distinct degeneration of the muscular fibres of the middle coats of the arteries in this case, also some less distinct changes in the buccal epithelium. The epithelioid cells lining the small arteries, capillaries and veins of the mouth, had undergone great proliferation, some of the small veins being blocked by this process, which had also affected the vasa vasorium of the aorta and vena cava. These morbid appearances are, however, not constant.

The most interesting complication of hæmophilia is the joint swelling, first described as being intra-articular by Poncet in 1871. The knee-joints of a young bleeder were examined, and blood was found freely effused within them, there were also changes in the cartilages, already described by Redfern and Charcot. In all other joints of the lower extremities similar appearances were found, though not so marked in degree. Sir. William Jenner also found free blood in the knee-joints of a bleeder, and Legg and Macready detected marked changes in the right knee-joint of a boy aged 9, who died of hemorrhage from a wound of the lip, in one of Mr. Thomas Smith's wards at St. Bartholomew's Hospital, a few years since. Much blood was extravasated in the right popliteal space, even the substance of the muscles being invaded. The knee was slightly flexed, the patella was fixed to the front of the femur by an adhesion that was broken without difficulty. A gap was then detected in the cartilage on the femur, where the patella had been fixed to it. The cartilage on the patella had been absorbed, and fibrous tissue occupied its place. The synovial membrane was stained of a yellow-brown color, the ends of the bones were also stained, and staining was detected in the left ankle-joint and right ankle.

The substance of the above observations will be found in Dr. Wickham Legg's interesting Report on Hæmophilia, in the seventeenth volume of St. Bartholomew's Hospital Reports, and in Dr. Percy Kidd's Contribution to the Pathology of Hæmophilia, in the sixty-first volume of the Medico-Chirurgical Transactions.

At the end of January, 1868, the Duke of Albany, then Prince Leopold, suffered for a week from very severe accidental hemorrhage, which rapidly reduced him to a state of extreme and dangerous exhaustion from loss of blood, but within a fortnight he was convalescent. At that date we had occasion to state that his condition would undoubtedly, and throughout life, require him to abstain from violent exertion of any kind, or from indulging in the more active departments of professional activity selected by the Duke of Edinburg and the Duke of Connaught (*Journal*, February 15, 1868). We observed that the cultivation of the arts and literature afforded probably an adequate recompense, we might look forward to Prince Leopold as the special friend and patron of social, artistic and literary progress, and, if he fulfilled that promise, his career would be honorable, and of great usefulness to the nation.—That promise he did his best to fulfil, as well as his short term of life would allow. But since 1868 he has never been in robust health, and has suffered from several attacks of swelling in one knee-joint, having some of the characteristics of subacute rheumatism. It is, however, highly probable that the articular disease was that which frequently complicates hæmophilia. The weakness of the knee appears to have caused the fall, but the nature of the intracranial complication is obscure. — *British Medical Journal.*

SPECIFICITY IN DISEASE. — Sir James Paget and Mr. Hutchinson may very justly congratulate themselves on the stimulus their labors have been the means of applying in the direction of philosophical study of disease on the part of youuger students of pathology. Proof of this stimulus has just been given by the production of a really clever and most suggestive paper on "Specificity and Evolution in Disease," by Dr. W. J. Collins, F.R.C.S., who essays with all the vigor of youth to demolish the theories of specific disease which have sufficed to satisfy the acutest physicians of this and every age. Dr. Collins applies the doctrine of evolution to the study of disease, but candidly, and necessarily, under the circumstances, declares himself, at the outset, to be an archebiologist. This should not, however dissuade from the perusal of his pamphlet, which is well worthy of being read and considered, although it bears, perhaps, a little too impressively, the evidence of generalizations which when the author has reached to the experience of the authorities whose opinions he condemns, he will be less eager to adopt. Dr. Collins, like older observers, has been puzzled by the occasional occurrence of mixed diseases, possessing some of the characteristics of two or more so-called specific complaints; he has also viewed with suspicion the quasi-explanations of those forms of illness to which names of definite pathological meaning are attached, but which have exhibited, perhaps, none of the fundamental symptoms stated in books to characterize them. Whether, however, the necessity their occurrence puts us under, of reforming our notions of disease, justifies a wholesale demolition of the structure founded on possibly limited views, may be doubted, but there can be no question that the spirit of inquiry they tend to foster in ardent investigators must eventually lead to unlimited gains in material knowledge. Such an investigator we undoubtedly possess in the person of Dr. Collins, who can think acutely and reason logically, but who is, at the same time, a little too prone to jump over those terrible gaps which everywhere occur to separate the known from the unknown. This essay he has last produced shows this weakness as well as some of his other work, but, notwithstanding that he mainly quarrels with terms in it, it is a not unwelcome contribution to controversial pathology.—*Medical Press.*

CASE OF HYSTERIA IN A MAN. — At the Société des Hopitaux, M. Debore made observations on a case of hysteria in a man who recently came under his notice. The individual was brought to the hospital in an unconscious state, and on examination, hemiplegia of the left side was discovered. Syphilis was supposed to be the cause, and in two months he left the hospital, cured. A month ago, the patient fell into the same state, and the hemiplegia this time was accompanied by anæsthesia and contraction of the same side. At the time of speaking the paralysis has nearly disappeared, but he is still hæmianæsthetic. On pressing over the region corresponding to the ovary in woman, a pain is produced similar to that observed in the hysteria of the opposite sex, and M. Debore considered that this fact would prove that the ovary in woman had very little to do with hysteria. M. Jouffroy had seen a hysterical man who presented a tenderness in the iliac region, and he was of the opinion that in woman it was not so much the ovary itself that produced the pain as the plexus of nerves by which it was surrounded, and that the same plexus could be found in man. — *Medical Press.*

"SIROP GIBERT."—A syrup has been largely used in the French hospitals and in this country which has received the name of "Sirop Gibert." It is made by dissolving three grains of red iodide of mercury and one hundred and two grains of iodide of potassium in three fluid drachms of water, filtering and adding sufficient simple syrup to make ten fluid ounces. Each tablespoonful contains about one-seventh grain of red iodide of mercury and five grains of iodide of potassium.—*U. S. Dispensatory.*

MYSTERIES OF SYPHILIS.—Dr. W. R. D. Blackwood has proposed two questions as a subject for contributions in the Medical Times, April 19, namely, "Can a Man affected with Syphilis Communicate the disease to a healthy fœtus (previously conceived) without Infecting the Mother?" "Can a Man beget a Syphilitic Child without Infecting the Mother?" To both of these questions Dr. B. responds in the affirmative, his conclusions being drawn from well observed and reported cases. The observation of the quoted cases could not well be better, nor could the facilities afforded the observer have been, in the ordinary course of life, much greater.

Dr. B. presents three cases where the mothers gave birth to unquestionably syphilitic offspring without affection. The first case presenting the conditions necessary to illustrate the first questions. We must, however, we think, be careful of an unwarranted assumption in declaring a woman who has been delivered of a syphilitic child as absolutely free from any danger of a subsequent development of syphilis. By whatever means the poison, whatever it may be, affects the healthy fœtus in the womb, it must pass through the constitution of the mother. If it is conveyed through absorption from the semen remaining in the vagina, is it not possible that under those circumstances, the primary lesions being necessarily absent, that the constitutional symptoms may require still more favorable conditions for their manifestations? We have several cases in hand, which, although they are not definite enough to be given to others to substantiate a case, they yet afford us personally, sufficient ground for guidance in doubtful cases. The cases we refer to are those of women from whom no suspicions of syphilis can by any scrutiny be elicited, married to recognized syphilized husbands with either no children, or only miscarriages: who, although they exhibit none of the usual lesions of syphilis; complain of rheumatism, worse at nights, certain wandering neuralgic pains, and sometimes cough, all of which yield only to regular antisyphilitic treatment. Personally, we are satisfied that if the profession carefully looks for such cases, it will not fail to find them. We are not acquainated with the reason why the constitutional developments of syphilis vary so much in point of time and severity with different individuals, but with such diversity before us, it would not be unreasonable to suppose that a modified means of introducing the poison might introduce still greater diversity in its manifestation, both relative to the time of the development and the nature of the lesion. To make our idea more tangible, we will refer to a case which reflection on the questions quoted has recalled. We do not give it as a proof, because the case was not sufficiently under control to permit the the necessary facilities. A woman 55 years of age—married at about 23; one miscarriage, one child dead at three months, no other pregnancy. Impossible to obtain any confession of sores on the body or sore throat; no loss of hair, in fact, no need of a doctor at all, only a little rheumatism. At the age of 55 a plastic iritis is developed, which yields immediately to antisyphilitic measures. The eye itself was sufficient to excite suspicion, but on finding the husband had had "erysipelas" (?); had been in an insane asylum twice, was then, although a well built man, almost useless from melancholy and loss of memory, the diagnosis was absolute, and therapeutics verified it. Now, I am sure that if, previous to the attack of iritis, this woman had been examined, even in the face of the uncertain or certain condition of her husband (he absolutely denied any syphilitic affection), she would have been pronounced free from syphilis. After the plastic iritis, however, associated with the rheumatism and the history of her hushand, we should not be so disposed to afford her such a clean bill of health. May not the mothers referred to by Dr. B., later on in life manifest similar developments? We hope that an opportunity will be afforded him to watch the cases for a number of years.—*Boston Med. and Surg. Jour.*

THE DOSE OF HYDROBROMIC ACID.—Hydrobromic acid must be used in much larger doses than has been customary if any benefit is to be derived from it. Such is the opinion of Dr. H. C. Wood (*Medical News*), who has been using this drug recently in epileptic cases. He found in three instances that half-ounce doses of the officinal hydrobromic acid were much more effectual than equivalent doses of bromide of sodium or potassium, and not nearly so liable to produce symptoms of bromism. He gives the acid after meals, with syrup, and diluted with half a pint of of water.

TREATMENT OF HYPERTROPHY OF THE NASAL MUCOUS MEMBRANE.—Dr. Morell Mackenzie, in a paper on hypertrophy of the mucous membrane of the nose says that when catarrh of the mucous membrane of the nose has existed for some years, and in scrofulous children but a few months, great thickening of the mucous membrane sometimes takes place. The symptoms are the same as those of common chronic catarrh, but intensified, the patient being often quite unable to blow his nose, and being obliged to breathe entirely through the mouth. The voice is persistently nasal, and the patient, if a child, always keeps the mouth open, presenting the well known stupid appearance so often observed in cases of enlarged tonsils. It has recently been noticed by several physicians that obstruction of the nasal passages is apt to give rise to very troublesome reflex symptoms such as asthma, and cough, and even epilepsy. These phenomena, however, are not nearly so frequent in cases of simple hypertrophy as in polypus, the probable reason being, as suggested by Hack, that the alteration of structure destroys the cavernous tissue, diminishes sensibility, and thereby diminishes reflex excitability. The diagnosis is easy, for a careful examination with the speculum and rhinoscope will as a rule reveal the nature of the case. The author then points out the connection between such thickening and genuine polypus, remarking that the two conditions are frequently found associated. He regards the prognosis as favorable. With respect to treatment, he says that it frequently needs to be of a vigorous character, but at an early stage the mildest measures are sometimes sufficient, the daily use of gum-elastic bougies often effecting a cure. The smallest size of instrument should, as a rule, be employed first, and at the beginning of treatment the bougie should not be left in the nose for longer than five minutes at a time ; after a few days however it may remain from ten to fifteen minutes, and at the end of a week it can be easily tolerated for half an hour. Larger bougies may afterward be employed, but force must always be carefully avoided. Mild alkaline sprays or hand-washes are often of great service if perseveringly employed. Sneezing must be checked by the inhalation of strong ammonia or acetic ether.

Should this plan not succeed, more active steps must be taken, but a word of caution is perhaps necessary in connection with this point. For though the introduction of the electric cautery and wire ecraseur permits some relaxation of the rule under which surgeons were taught to "cut through everything soft, to saw through everything hard, and to tie everything that bleeds," the spirit of this simple instruction has, he fears, in recent years sometimes influenced the young practitioner, and the nasal passages have occasionally been "cleared" with a zeal and energy worthy of the industrious backwoodsman. In several cases that have come under his own care in which severe measures had been previously urgently advised by others, he succeeded in effecting a cure by the mere removal of the causes of irritation and the persevering use of gentle dilatation. He would also warn some of his younger confreres that, as the appearance of the interior of the nose varies as much in healthy persons as its outward configuration and it is unnecessary, when no inconvenience is felt, to restore geometrical symmetry to the turbinated bodies. or to invest the lining membrane with artistic merit. But whilst deprecating unnecessary agression in this tender region, he does not deny that many cases can only be cured by active treatment.

Should the hypertrophy resist the measures already recommended, the redundant tissue must be either destroyed or removed. Destruction with electric cautery will be found the most simple and efficacious method. Instead of destroying the hypertrophied tissue, however, it may be removed by a cutting operation. For this purpose either a snare or sharp forceps may be employed. When the anterior part of one of the turbinated bodies is enlarged it should first be transfixed with a needle mounted in a light handle, the loop of the ecraseur being then passed over the needle and gradually drawn around the hypertrophied membrane. If the posterior extremity of the turbinated body is the part affected such a bend should be given to the loop before it is pushed through the nose that it will pass over the mass in the naso-pharynx. A little manipulation will suffice to secure the growth, which should be cut through very slowly if hemorrhage is anticipated, the operation being interrupted every few minutes, and not completed for half an hour or even an hour. In these cases it will be found much more easy to remove the swollen tissue with the ecraseur passed through the nose than to destroy it through the naso-pharynx. Dr. Beverly Robinson has successfully removed hypertrophied tissue from the turbinated bodies by means of strongly toothed forceps but this treatment appears to the author to be much more severe than either the cautery or ecraseur.—*Med. Record.*

THE BROMIDES IN THE TREATMENT OF A NEUROTIC DIARRHEA OF CHILDREN.—At a recent meeting of the Harveian Society, of London, a report of which we find in the *Medical Times*, Dr. Lees called attention to a class of cases, not very uncommon in children, in which the main symptom was an irresistible impulse to defecation, experienced almost immediately after taking food. Colic pain might or might not be present, but there was no sensation of weight at epigastrium, heartburn, flatulence, or other symptom of dyspepsia. The motions were usually semi-solid, not often watery or slimy, and frequently contained undigested food. Usually a motion was passed almost immediately after every meal, and perhaps once or twice more during the twenty-four hours. Dr. Lees pointed out that these symptoms were evidently due to a hyper-peristalsis of the alimentary canal, without increase of secretion, the two factors of ordinary diarrhœa being here disassociated. Such increase of peristalsis was probably due to irritation of the vagus nerve, which supplies the excitor fibres to the intestine, the splanchnics conveying the inhibitory fibers. The proximity of the nucleus of the vagus to that of the trigeminus, in the medulla, indicated the possibility that this increased excitability of the intestine might in part be due to dental irritation, the cases in question usually occurring during the period of the second dentition. Believing in the purely neurotic origin of the symptoms, Dr. Lees had treated several cases with bromide of potassium simply, without opium or any astringent, and had obtained immediate success, even in cases which had persisted for several months. The diarrhœa was usually arrested in a few days, and occasionally the children became so costive that the medicine had to be discontinued. Four cases were narrated, also a similar case occurring in an adult, in all of which speedy relief was given by the bromide. In conclusion it was remarked that individuals who suffered from these symptoms were often of a markedly neurotic temperament, timid, and easily frightened.—*N. Y. Med. Journal.*

IODINE PREPARATIONS AND QUININE. — Rabateau, in a communication to the Société de Biologie, called attention to the occurrence of disagreeable symptoms in the digestive organs and nervous system from the combined administration of iodide of potassium and sulphate of quinine. He insists that twenty-four hours should elapse between the administration of an iodide and the quinine sulphate. He also warns against the use of quinine during the menstrual period, as it sometimes gives rise to severe symptoms. — *Deutsche Med. Zeitung.* —*Medical Times.*

VERATRINE TREATMENT OF PRURITUS. Dr. Cheron highly recommends the following ointment where the pruritus is localized in the axilla, the vulva or thighs, or the abdomen. He declares that if this pomade is applied morning and evening, the affection will yield to its influence. Veratrine, grs. iij.; axunge, ℥ j. When the pruritus is general over the body, he advises the veratrine to be given internally in pills. Veratrine, one-third grain; liquorice powder, q.s.; for forty pills, two to six a day.—*Medical Record.*

ANATOMY AND SURGERY.

TUMOR ALBUS. (¹)—By Professor Theodor Billroth, of Vienna.

You see here two children, one of whom had been ill nine months, and for the last three has been confined to bed, from inflammation of the hip-joint. If we take in the clinical picture before us, we see that the child anxiously holds the affected limb in a definite position, namely, flexed, and a little adducted. I can, however, carry out abduction with the leg quite easily without perceiving any crepitation, from which it is probable that the cartilage and synovial membrane are not at present affected, that the disease rather has its seat in the bone itself, and the fact that the child cannot walk is also in favor of this supposition. The cases in which the synovial membrane is affected from the first are characterised by the fact that power of movement ceases earlier and that at the commencement movement is painful. In consequence of the constant position of the leg, shrinking of the ligaments is added; the disease does not lie in the ligamentous apparatus, for primary disease of the accessory ligaments and of the fascia is exceedingly rare. The primary disease lies in the bones, but the question, where is the situation of the original centre of inflammation? cannot be answered with certainty. It may be situated in the acetabulum, in the head of the thigh bone, in the neck, in the trochanter. We may always conclude, however, that a case that in the beginning brings about adduction and flexion must have its seat in the anterior part of the bone, and that an affection is present that so fixes the ligaments that abduction is prevented, and that therefore the ileo-pectineal ligament is especially drawn into sympathy.

In the case of the other child you observe a tolerably considerable swelling of the knee-joint. The disease is said to have followed a fall. In the course of it an abscess appeared which broke externally. This child holds its knee in a flexed position, and experiences intense pain when I attempt to stretch it; the disease, therefore, probably resides in the joint itself. A yellow tuberculous pus flows from the abscess opening; this character of the pus, however, proves nothing as to the seat of the disease. Is the cartilage destroyed? We should verify this if we felt crepitation on movement, a symptom that shows the contact of two bone surfaces and their rubbing over each other. We feel no crepitation. This negative symptom does not permit us to exclude that hypothesis of destruction of the cartilage, for we must keep before our eyes the possibility that the cartilage is destroyed and replaced by masses of granulations, for in the latter case no crepitation would be perceptible. We should conclude that destruction of bone was present if any deviation of the bone from its normal direction, or any shortening, could be perceived. It is important in the determination of this question to ascertain whether the patients can bear pressure upon the articular surfaces without much pain, and whether they can walk. The child can walk, and it can bear even sudden pressure of the joint without great pain; therefore, the bone is apparently not attacked, at any rate, not close to the articular surfaces, but perhaps at a short distance from them. Under narcosis I can distinctly cause lateral movement, whence we conclude that the capsule and ligaments are destroyed. We have therefore a case of fungous synovitis before us, or what is also called a *tumor albus.* As I now open the joint in order to remove the fungous mass of granulations, you see the capsule of the joint thickened, so as to resemble a fatty layer; the synovial membrane seen through the mass of granulation also appears considerably thickened, and the whole of the cartilage is covered by granulations. This is the reason why we felt no crepitation. It is a fungous synovitis, which in its spread has gradually destroyed the cartilage, but has not penetrated into the bone itself. As regards the commencement of *tumor albus*, there are two kinds: 1. It may have its origin in the synovial membrane, so that the case will be one of chronic parenchymatous synovitis; and 2. It may proceed from the bone itself and begin either as diffuse, rarifying ostitis, which is very rarely the case, however, or in consequence of the deposition of tubercle-bacilli (or so-called circumscribed caseous ostitis, as it was formerly called), as tuberculosis with reactive processes around this

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(1) From the *Wiener Allgem. Med. Zeitung.*

primary centre. In regard to the synovitis, this is distinguished in its first commencement by reddening and swelling of the synovial membrane, which finally goes on to secretion; the exudation is at first rather muco-fibrinous, but later on becomes more purulent; the synovial membrane becomes thicker, redder, the villi grow and soon become granular in appearance. In this condition they grow on, and soon cover over the whole cartilage, just as pannus grows over the cornea and covers it like a veil, whence this form has been named pannous synovitis. These granular growths, however, shoot out processes into the substance of the cartilage itself, processes which I like best to liken to ivy roots, for the ivy not only twines itself around the foreign body standing near it, but sends down roots into the soil. In this way the cartilage is entirely destroyed by the spreading granulations. When at the same time similar granulations from the bone, or the granulations from the synovial membrane further develope at the margin between the cartilage and the bone, it may happen that the cartilage is completely undermined at certain spots, so that it may often be seen floating like an island between masses of granulations. I was formerly of opinion that the disease was most frequently originated by the processes above described, that it began as chronic synovitis, and subsequently led to caries of the bone by the granular masses pentrating into the bone, when suppuration or caseation took place, or caries developed. As has been shown in recent times, however, pure primary synovitis a very rare occurrence; it is rather must thus be looked upon as secondary. At one time our attention was only directed to the material we met with after autopsies and amputations; we found a panarthritis, but we could not decide accurately where the affection originated. But after Volkmann had given utterance to the opinion that in this disease we could not resect early enough, people began to resect the heads of joints in great numbers, whereby they gained the opportunity of beholding the disease in its various stages. From the great series of preparations thus obtained it was discovered that the osseous origin was the most frequent. Before this we had found in these cases that yellow caseous masses were present in bone, and the supposition was that these were simply caseations, the outcome of chronic inflammations; that this inflammation might eventuate in granular growths, in suppuration, in caseation, or in pure ossification. According to our present views we must say that the termination in caseation does not exist, but that, on the countrary, this caseation is primary, as in consequence of the immigration of tubercle bacilli a caseous clot is formed, and the clot, partly mechanically, and partly chemically, reacts on its surroundings. In the intestinal canal growths and ulcerations arise after the deposition of tubercle; the like is the case in the larynx. In other organs, in the lymphatic glands, for instance, swelling first take place, then comes suppuration. In bone hyperæmia most frequently comes on around the tubercular mass, and ostitis, with a tendency to the formation of granulations, which gradually lead to resorption of the bone. We now come to the question, how near does this clot lie to the joint? If it does not lie far off, the cartilage and synovial membrane participate in the process, and thus we have the whole pannous-fungous synovitis as a consequence of the primary deposition to tubercle bacilli. Cannot the original caseous clot become encapsuled? We cannot indeed deny this, but at any rate it happens very rarely. If the tubercle acts only mechanically as a foreign body, then it can become encapsuled, but I do not place much importance on this mechanical action, and it is principally the chemical action that calls forth all the later changes.—*The Medical Press and Circular.*

Ether by the Rectum.—"A note on etherization per rectum, which, so far as we know, is quite a novel device, is published by Dr. Moliere, senior surgeon of the Hotel Dieu at Lyons, in Lyons Medical (March 30th). The idea was first suggested to the writer by Dr. Yverson, of Copenhagen, who, at the conclusion of a visit to the Lyons hospital, asked what anæsthetic was used there. To the answer, ether, he asked how it was administered, by mouth or by rectum. This question was the cause of the experiments detailed. The first operation in which this method was used was upon a young girl of twenty, and was used for the removal of a tumor in the parotid region. The ether was insufflated to the bowel by an atomizer, giving a mixture of air and ether. No sign of anæsthesia appeared for ten minutes. The patient then declared she felt a strong taste of ether in the mouth, which was confirmed by the odor of her breath. She then began to sob and to talk incoherently. A few drops of ether were then held before the nose, and she almost instantly fell into a deep sleep. The operation was performed without the inconvenience of a respirator. On the removal of the rectal canula at the close of the operation the patient awaked. The quantity of ether absorbed had been very small.

In subsequent cases a rubber tube of the size of the finger was introduced into the rectum and coned with a flask of ether which was plunged into a vessel of water at 50° C. The ether boiled, and its vapor passed into the bowel. In the second of of the cases described, in five minutes the signs of ether intoxication were present, but as the patient then got up the anæsthesia was completed by inhalation. In the third case, where a finger was to be removed, perfect anæsthesia was secured by the rectal administration of the drug. Auscultation revealed the passage of bubbles of ether in the intestine, and the odor of the drug was distinct in the breath. At the most ten grammes of ether were used. No nausea or vomiting occurred.

As the result of the experience of Dr. Moliere he concludes that this method of administration is likely to prove of great service. It suppresses, he claims, the period of excitement (this was especially noted in the case of a hard drinker, where experience teaches us usually to expect considerable excitement). It allows the quantity to be taken to be accurately measured, and reduces the amount necessary to a small quantity. It leaves the surgeon untrammeled by sponges and inhalers when operations are to be done on the face or mouth. It removes the disagreeable effects of inhaling the vapor. Further experiences of the method are promised us, and they will be awaited with interest.—*Boston Med. Surg. Jour.*

SIGMUND FUCHS ON THE HISTOGENESIS OF THE HUMAN CEREBRAL CORTEX.—(*Ibid.* 1883.) — The chief questions which the author has proposed to himself are:

1. At what period of the fœtal or extra-uterine life do medullated fibres (chiefly those that run parallel to the surface) make their appearance in the cerebral cortex?

2. At what period are their number and calibre so far developed as to represent a system of fibres functionally equivalent to that of the adult?

He came to the following conclusions:

The new born child possesses no trace of medullated fibres, neither in the central nor in the cortical portions. They are found in the former at the end of the first month only, and in the cortex they appear at different times in the different layers. In the upper layer none are discovered before the fifth month; in the second layer, after the first year. The radiating bundles of the deeper layers appear in the second month; while the horizontal fibres of the third layer are found to be medullated in the eighth month.

During the seventh and eighth years the medullated fibres reach the disposition which they preserve throughout adult life.

The cortical medullated fibres, which in after life are the thickest, are the first to make their appearance. We may assume that the chronological differences in the development of the medullated fibres corespond to their physiological interpretation. Pyramidal cells of the typical structure occur in the cortex at the time of birth.—Deiter's connective tissue cells were clearly observed in the fifth month of child life. —*Brain.*

METASTATIC PHLEGMON OF THE HAND. —By Professor Theodor Billroth, Vienna, in the *Medical Press and Circular.*

The patient was confined four weeks ago, and suffered from some febrile symptoms in childbed; there was, therefore, something about the genital organs not quite in order, but the symptoms never became of marked importance. Probably there was some parametritis present. A fortnight later an inflammation of the carpal bones came on. This must not be taken as accidental; we must rather look upon it as a metastasis of the original inflammation in the parametrium. With the ostitis of the carpal bones was associated suppuration of the sheath of the tendous; later on the inflammation progressed upwards, in part in subcutaneous cellular tissue, and in part underneath the muscles. It frequently happens in puerpery that a comparatively small focus of inflammation brings in its train very grave conditions, such even as threaten life itself. Upon the whole, we may say that these metastases, when, as in this case, they find their way towards external parts, to be subcutaneous cellular tissue, or a little deeper, generally made their way out, whilst those that are transported internally bring about a lethal termination. The parametritis has here apparently died away, but the inflammatory process still exists; it is not easy to get rid of, as it lies deep, not only in the subcutaneous cellular tissue, but in the joint, in the bones, and in the sheaths of the tendons. The causes from which suppurations of the subcutaneous connective tissue take their origin are most frequently injuries, and especially crushes; but purulent inflammations do make their appearance, which apparently arise without the slightest external injury, and in which the question as to their cause cannot be answered. In some of the suppurations of this kind the spontaneous origin is only apparent—not real—as in most cases they originate in previously existing centres of inflammation, only the primary focus is not known, or quite overlooked. It is frequently the case that quite insignificant irritations are the cause of such conditions, and this is especially so in phlegmons that form at the tip of the fingers, in panaritis, and in those that form on the foot and especially around the bones.

Panaritia are especially frequent in cooks, and in individuals who have to handle substances of doubtful cleanliness; in cooks the epidermis is swollen, easily permeable to infective material, which may be furnished by meat which is not used fresh, but must be kept for some time before being cooked. Phlegmons of the foot came on in people who go about barefooted, or from chafing hard boots, or from a nail penetrating the foot—such sores forming places of entrance for the infective material.

All these processes, when they have reached a certain degree of intensity, become more or less quickly and widely diffused, and act more or less upon the system generally. This is dependant on the intensity of the poison which the micrococcus either introduce with themselves, or which is first generated by their growth, for the mechanical entrance of a foreign body alone would not be sufficient to lead to such consequences. Such inflammations only are called metastatic as make their appearance whilst another inflammation is in progress, and which, as observation teaches, has a certain relation to the preceding inflammation. If a person either spontaneously, or after an injury, has phegmon on the arm, and at the same time during its course developes another on the foot, or inflammations in the lungs, we have to do with metastatic processes. The explanation lies in the fact itself that a connection exists between the two processes—that the process has shifted itself to a certain extent from the one locality to the other. Our predecessors thought that the first process must cease, and that by the suppression of it the second centre originated. But it is not correct that the first process must cease for the second to originate. According to the present view, we can say that the infective material passes from the primary centre through the lymphatic channels into the blood, and is deposited—it may be here, it may be there—and after the micrococcus vegetation has once become established, a metastatic inflammation is originated at the spot. Fortunately, a barricade against the further spread of infective material is generally erected in cases where strong inflammatory infiltrations are present. The lymph channels are occluded, and it is characteristic of these inflammations that they are generally enclosed in a very short time; the centre of inflammation becomes encircled and encapsuled; the lymph passages, and the cellular interspaces become blocked up by fibrine; later on new tissue; and the infection cannot pass farther. When such an abscess is opened sufficiently early, the therapeutical results are favorable; when the pus has escaped healing takes place with rapidity. Only when the inflammation passes downwards the mechanical conditions are exceedingly unfavorable, as between the bones many lacunæ exist, in which the pus collects and cannot empty itself; and it is this wherein the great difficulty of healing lies. In the case of our patient, notwithstanding the depth of the centre by means of numerous incisions giving free exit, the process is so far got under control that an anchylosis of the wrist-joint only will result. She has no longer any fever; if she should, however, have rigors, high temperature, and dry tongue, then we should have to consider whether amputation would not be necessary.

We will still go on with the question, "In what way can we explain those inflammations without existing injuries of the skin?"

Cannot infective material, diphtheria and decomposition bacteria penetrate the uninjured cuticle, enter and set up inflammations? We must answer with a decided—Yes; and more especially there are diphtheritic poisons that can penetrate into the vein through the hair follicles. But how is inflammation of the sheaths of tendons to be explained, and acute osteomyelitis? It appears to be proved beyond a doubt that the pus from these processes contains micrococci in great numbers, and that suppuration of this kind has its origin from the micrococci, but the pathway of infection is completely unknown—it is problematical whether the immigration of the micrococci takes places through the lungs, or through the intestinal tract or some other way. I have at one time defended the following explanation:—It is scarcely conceivable that the body does not always contain within itself a number of bacteria germs; a healthy organism is, however, proof against the ordinary bacteria of decomposition, or the conditions for their development are not present. The mucous membranes have such a powerful action that the bacteria germ, cannot develop on them. If small particles of carbon can be taken up and transported to the axilliary glands, why should not the minute micrococci find entrance into the blood? I have, therefore, assumed that a certain number of micrococci are always present within the body, but that in the case of healthy strong individuals they cannot arrive at development. But if the liquid become stagnant at any particular spot, the germs gain the upper hand in the unhealthy locality, and then it is not this diseased centre that is the cause of the inflammatory process, but the micrococci which have here obtained an opportunity to develope. I have prepared a glass with boiling oil and melted paraffin, have then very quickly removed the skin from the extremity of a rabbit, exarticulated, thrust the parts into the boiling oil, and thence in a moment into the paraffin. In a short time the flesh was crowded with bacteria. From this I have drawn the conclusion that the bacteria were there before, and that a number of bacteria are present in every animal organism, but they do not develope for the reason that for development no suitable soil is present.

The experiments upon which I have relied are incomplete conclusions, however, and more recently Meissner, of Gottingen, has succeeded in showing that it is improbable that micrococci exist in the normal living organism. He has succeeded in preparing portions of the liver and spleen of rabbits, the extremities of frogs, in part in serum, in part dried, in such a manner that they have remained unchanged after the lapse of two or three years. This has been achieved solely by means of the most scrupulous cleanliness in manipulation, and entirely without chemical aid. Unfortunately, the results are not yet published, they are of great importance, for they prove that exceedingly careful exclusion of bacteria germs suffices to prevent decomposition. It is (not) necessary to make use of chemical agents that destroy them. According to this, one must say that it is improbable that the living organism contains bacteria germs, but they gain entrance as agents of disease as in the cases of inflammation of the spinal cord, and of the sheaths of tendons. But in what way the micrococci gain admission in these affections we do not know at present. In quite recent times the question has been raised whether any productive suppuration can arise without the agency of micrococci. Klebs has been of the opinion that when the entrance of micrococci is prevented, as, for example, in the case of gunshot wounds no suppuration will follow; Hunter has also said the same thing. In opposition to these views, work in part from the laboratory of Cohnheim has shown that other material also can produce suppuration—croton oil, for instance, that sets up suppuration under all conditions. The material that excites suppuration must be a chemical agent, a material of very labile equipoise (Gleichgowich), and it is not clear why this chemical action should not be the property of other substances. It is, indeed, possible that in addition to fermentative agents already known, we shall yet discover a non-living agent capable of initiating fermentative processes.

Cod-Liver Oil as a Surgical Dressing.—J. E. Hainline, M.D., of Iowa, gives his experience in the *Medical and Surgical Reporter* with the use of *pure* cod-liver oil as a surgical dressing. His experiments embrace a class of cases differing entirely from each other. In every instance the dressing seemed to increase activity, thereby promoting the healing process.

The first case was one in which he had

removed a tumor from the breast; the second, in which he had excised a schirrhus breast; the third was an operation for necrosis of the tibia.

He concludes his paper as follows:

"Thus I might go on citing over a hundred different cases in which the cod-liver oil, with the addition of carbolic acid, was the only dressing applied; but will be content, for the present, with those above mentioned.

"In every case I was compelled to note the increased vitality.

"My experience with cod-liver oil as a surgical dressing has led me to use it exclusively, believing it to be superior to the olive oil generally used.

To those who may desire to test the virtues of this new dressing, let me suggest that they use the *purest article to be found in the market.*

CHOLECYSTECTOMY FOR GALL-STONES.—Dr. Thomas Savage reports a case of this operation, performed in 1883. The patient was of sedentary habits, who for years had been conscious of the possession of a liver. He had consulted an eminent specialist for such cases, who told him that he had a hydatid tumor connected with the liver, and that it should be punctured by aspiration as soon as possible, proposing himself to do it. When I was consulted, I at once found the presence of the tumor, and said that it was probably hydatid, but that it would be better to perform an abdominal section, and treat the tumor in the best way that was thought advisable when it was exposed to view. It was put before the patient as being an operation not less safe than aspiration, and yet more likely to be curative. This plan was agreed upon, and fourteen stones, varying in size were removed.

The tumor was about the size of a medium coker-nut, and was, in fact, a distended gall-bladder. On tapping it, the first two-thirds of the fluid was transarent and colorless, and a little viscid; the latter one-third was bile-tinged, in fact, appeared to be pure bile. I very much regret that the fluid was thrown away in the confusion of putting straight after the operation. It has been suggested to me, in explanation of the presence of these two fluids in one sac, that the colorless fluid might have been indeed hydatid, and was kept distinct from the true bile by a wall formed of the stones, which, on the collapse of the gall-bladder by the escape of the clear fluid, broke down, and allowed the bile above it to escape also. The appearance of, and the facets upon, the stones pointed to their having been in close contact before their removal.

This case is interesting in itself, but also more on account of its showing the inutility of advising aspiration, when a tumor can be directly treated under one's eye and touch. Here aspiration would not have been of the slightest use, and might have done much damage. Indeed, it would have been more risky than an abdominal section, as bile might without difficulty have escaped into the peritoneum; and, as a matter of fact, Murchison and others have reported a goodly number of cases of tapping followed by a fatal tissue.

To prevent the future recurrence and dropsy of the gall-bladder, Langenbuch, in 1883, has recommended extirpation of the gall-bladder. Three of such operations appear to have been successfully performed. Langenbuch advises to begin by detaching the gall-bladder from the liver, and to tie the cystic duct.—*Brit. Med. Jour.*

SIMULTANEOUS LIGATURE OF THE SUBCLAVIAN AND COMMON CAROTID ARTERIES FOR INNOMINATE ANEURISM; RECOVERY.—Dr. Julius Rosenstern reports the case of a woman, æt. 42 years, who, about two and a half years ago, began to experience pains in the upper part of the chest, and extending into both arms. In July, 1883, a pulsating swelling was noticed on the right side of her neck, and has since increased. The symptoms were those of aneurism of the innominate artery.

On November 26th the right common carotid and subclavian arteries were ligated, two ligatures being placed upon each. The wounds were irrigated with a four per cent. solution of carbolic acid, filled with iodoform gauze, then sewed up with the exception of a small opening for the passage of the ligatures and an iodoformized drainage-tube. The whole was covered with an iodoform wadding bandage, the head drawn over to the right side with triangular cloths, and the right arm firmly bandaged to the thorax. The bed was elevated at the foot to facilitate drainage and guard against a congestive abscess in the mediastinum.

The first bandage was changed on the

seventh day after the operation, the iodoform gauze removed, the wounds iodoformized and compressed with iodoform wadding bandage. The sutures were removed on the fourteenth day. The edges had united by first intention, with the exception of the space occupied by the drainage-tubes, which were also taken out at the same time. The temperature only rose once to 102°. The pulse was at first 100, and very strong, but gradually came down to 80. One ligature of the carotid came away on December 24th, the other eight days latter. The ligatures of the subclavian came away toward the end of February. The right radial pulse reappeared on January 2d, but is still very much weaker than on the other side. The pulse in the right temporal artery cannot yet be felt

On the 1st of January she left the bed for the first time, and went home on the 8th. Since the day after the operation the pains and difficulty of breathing have not returned. The tumor, though considerably diminished, has not entirely disappeared.—*Pacific Med. and Surg. Jour.*

INJECTION OF SOLUTION OF CORROSIVE SUBLIMATE IN PROSTATIC RETENTION OF URINE.—Having lately read certain articles, part of which were taken up in discussing the merits of certain agents as injections for the bladder, I have been induced to relate shortly my experience in a case of retention of urine from enlarged prostate, with catarrh of the bladder, treated with corrosive sublimate injections, of strength 1 in 1,000. The patient, J. A., aged 71, married, was under treatment for a similar attack fourteen months ago, when suprapubic tapping was required for relief; and the length of time during which the attack lasted was six weeks. The present attack was ushered in with rigors, frequent desire to micturate, restlessness, constipation, and various other feverish symptoms. By the rectum was found a prostate about the size of an orange, tender and hot to the touch. With a large prostatic silver catheter, easy access was gained to the bladder this time, and eight or nine ounces of decomposing smoky urine were drawn off. By means of the same catheter I injected three ounces of the sublimate-solution warm, and allowed it to remain in the viscus three or four minutes. The same night the patient passed comfortably, with a much modified desire to micturate. The urine drawn off next morning was clearer, but yet cloudy, with less odor. During the day he could retain his urine up to the evening, when the urine drawn off was almost free from decomposition, and only cloudy towards the end of the stream. The night following this was one of confort. A bungling use of the catheter next morning set up anew the former symptoms to a certain extent, with smoky urine and frequent desire to micturate. In twenty-four hours this had subsided, with a return of the urine to its normal (as far as this patient is concerned) state. The patient has now been one week under supervision, with injections night and morning, and can retain, with ease, his urine during the interval of catheterism. The propulsive power of the bladder is now considerable, and handling of the prostate is borne with much less distress. Defæcation causes little or no pain. The urine is in quantity fifty ounces, of specific gravity 1012, acid and albuminous. Its color is amber. That is but one case; nor can the local use of the sublimate carry much weight until more extensive trial has been given it; but after having in similar cases used other ingredients for such injections, my experience does not furnish such a favorable result as I have had here; and in a patient who, from a consideration of his age alone, and also the state of his urine, requires the most cautious handling. —WM ROBERTSON, in the *British Medical Journal.*

ERGOTIN IN VESICAL PARESIS.—By R. B. Hamm, M.D., in *Medical Times.*

Mr. B., a telegraph operator, aged about 35 years, of good family history, etc., came to me suffering from paresis of the bladder, which he stated was of seventeen years' standing. On examination I found elastic stricture of the membranous portion of the urethra, and a subacute cystitis. I also learned that through negligence, and from the nature of his occupation, he very frequently allowed his bladder to be overdistended for a period of four or five hours.

He had for many years been variously treated by vesical injections and internal remedies, without effect. He was unable to void his urine, even the slightest portion of it, without the aid of a catheter. Thus the case came to me to be treated.

My first step was to gradually dilate the stricture until I was able to introduce a sound (No. 32, French scale), and by administering internally one forty-eighth of a grain of sulphate of strychnia and one-fourth grain of extract of belladonna t. d. About every six hours I instructed him to attempt to urinate, and at least twice daily to completely empty his bladder with the catheter. At the expiration of about three weeks I could find no noticeable improvement in his condition. I then added to my former prescription ergotin, 1 gr., and in several days I noticed a very marked improvement. I continued the ergotin treatment, and day by day I found him able to void more urine, until, about two months after I first began using ergotin, he could completely empty his bladder without the aid of a catheter. The subacute inflammation also disappeared after a few days of this treatment.

In a late article Dr. Grimm advocates the use of ergotin in paresis of the bladder. In my opinion this case goes to support the theory advanced by him. I think that the remarkable and rapid cure effected in the case I have mentioned was due chiefly and entirely to the use of ergotin. There is no question in my mind but that it is the best remedy for subacute cystitis extant.

RESECTION OF INTESTINE.—Dr. Macdonald, in the *Lancet*, Feb. 1884, p. 249, gives the case of a woman aged 28 who suffered from peritonitis and extra-uterine fetation. On opening the abdomen a piece of intestine was injured, and about six inches was found so hopelessly diseased that it was removed, the edges of the free ends being brought together with a continuous catgut suture. She made a slow but perfect recovery.—*Lon. Med. Record.*

EXTIRPATION OF THE LUNG.—Among the novel experiments recently tried in Italy, the extirpation of the whole, or a part, of the lung seems the most remarkable. Fifty-seven animals—sheep, dogs, cats, and others were the subjects—had an entire lung extirpated, and thirty-five recovered. In twenty-three cases the right lung was removed, and twelve recovered; the left lung was taken in thirty-four, and there were eighteen recoveries. There were three cases of removal of the upper part of a lung, and one each of removal of the middle and of the lower lobe; all recovered. It is very doubtful if these experiments will ever be imitated, on an extended scale, in human beings. Professor Kroönlein, of Zürich, however, in a case of recurring round-celled sarcoma of the sixth rib, recorded in the *Berliner klinische Wochens.*, of March 3, 1884, not only removed a large portion of the wall of the thorax, including the costal pleura, but also resected a portion of the lung, which was the seat of a secondary sarcomatous mass. The insignificant bleeding from the lung stopped after bringing the edges of the wound together with catgut sutures. In one month the patient was discharged cured.—*Brit. Med. Jour.*

ACUTE NECROSIS OF THE TESTICLE. — A boy 14 years old, after a chill attributed to a wetting, presented himself with an acute painful swelling of the left testicle to Dr. Maas' clinic at Würzburg. He denied traumatism, and there was no evidence of associated disease, either gonorrhœa, parotidis, or lung affection. After treatment by ice, the testicle shrank to the size of a pigeon's egg. It had a hard consistency, and the spermatic cord was thickened. Believing tuberculosis to be present, the testicle was removed. Microscopic examination discovered thrombosis in the vessels, especially in the spermatic artery, at the location of the body of Highmore. The glandular epithelium and cells of the connective tissue of the testicle were microbiotic. The reporter believes the etiology of necrosis of the testicle to be due to (1) a thrombosis consecutive to injury; (2) thrombosis of the pampiniform plexus,, and (3) the subsequent disturbances of the blood circulation. Castration offers a more rapid relief than any other treatment.—*Breslauer Aerzt. Zeitschrift*, No. 2, 1884. — *Medical Times.*

GASTROSTOMY.—A remarkable operation of this kind was performed by Mr. Knowsley Thornton on Tuesday, May 6, at the Samaritan Hospital. A girl aged 18, a patient of Mr. H. P. Simonds of Oxford, had indulged for some years in the habit, not unknown to the records of clinical medicine, of eating the combings of her hair, and swallowing cotton and other like materials. A large mass gradually collected which was moulded into the shape of the stomach, and measured nine and a half inches in length, and five in breadth at the cardiac end. The stomach was opened on its anterior surface by an incision five inches long. Very little hemorrhage ensued, and the mass was extracted by means of a vulsellum. During this process precautions were taken so that neither the wound nor the peritoneum was fouled by the contents of the stomach. The wound was closed by five silk sutures, deep and superficial, interrupted and continuous. The patient was doing well on May 8th. A similar case, which terminated in recovery, is recorded in Langenbeck's *Archiv*, vol. xxix, 1883, page 619.—*British Med. Jour.*

OBSTETRICS AND DISEASES OF WOMEN.

Puerperal Pyrexia.—In opening the discussion on this subject Dr. Angus Macdonald approached it from the point of view of the thermometer. After a brief reference to the difficulties that lay in the way of the early observers of temperature through the defective action of instruments, and the advances that the perfection of the clinical thermometer introduced, the author formulated the subject to be discussed under five heads.

1. What are the normal limits of temperature in the healthy puerpera? 2. How are we to explain the frequent sudden rises in temperature during the lying-in period, passing off rapidly and leaving no evil results? 3. In cases of complicated puerperium, at what time does the degree of rise become dangerous, and when can we trust the depression in temperature as indicating safety? 4. Is it possible by mere consideration of the temperature alone, to determine the presence of septicemia, or to conclude that a given case of pelvic inflammation is still aseptic and likely to remain so? 5. Are there cases in which temperature is apt to mislead us, and if so, how are we to explain these alterations?

In regard to the first question the author referred to a series of observations made at the Edinburg Royal Maternity with the object of ascertaining the normal puerperal chart. The result was to show that from the third to the seventh day inclusive there is a slight rise normally, but that the highest attained was only 99·5°. Subsequently the temperature became normal. In treating of sudden rises of temperature during the puerperium, the author stated that in his opinion the bulk of them were really septicemic. Reference was made to a series of hitherto unpublished observations on the lochia, the result of which was to show that even as issuing from the os uteri, the lochia invariably produced rapid putresence in sterilised fluids, though removed with every antiseptic precaution. Reference was also made to the recent observations of Kehren, Karewski and Ahlfeld upon the putrescent qualities of the lochia and the portions of membranes retained in utero. It was argued that autogenetic infection was more likely to occur than British obstetricians are inclined to believe, and a demand was made for the greatest consideration being exercised by medical practitioners in judging of another in whose hands such an accident occurred. It was maintained that with due use of cleanliness and antiseptics, a medical man ought not on any occasion to carry the disease to his patient. How to combat the autogenetic disease had yet to be worked out. Rupture of perineum, rupture of vagina, local abscesses, hematocele, etc., may also cause these sudden rises, as well as mental impressions. The author expressed grave doubts regarding the secretion of milk as a cause of high temperature. He had never noticed such rise unless the tension was so great as to approach congestive mastitis. In that case one or two degrees of elevation might occur. In most cases of so-called milk-fever careful exploration is able to elicit some other source, usually some traumatism in the genital tract.

In dealing with the third head the author expressed the opinion that a case became decidedly dangerous when the temperature reached 102·50, and the higher and more prolonged the pyrexia the greater the danger. No certainty of improvement was warranted unless the temperature remained under 100° for at least twenty-four hours. Attention was directed to the radical differences of the chart of lymphatic septicemia compared with phlebitic septicemia. In the former case there was single rigor and sudden and continuous temperature, in the latter a series of successive rigors followed by corresponding depressions. These facts are important in establishing a diagnosis.

In dealing with the fourth question Dr. Macdonald maintained that while as a rule the temperature in non-septic pelvic inflammations did not exceed 102·5° or 103° and in septic cases ran up to 104° and 105° or more, yet it was unsafe to form a judgment from the temperature alone, and the whole circumstances of each case had to be considered. On the other hand, when metritic or parametritic mischief is present, one can not know when it may take on septic action. The gravity of such cases, in the opinion of the author, lay not so much in the high temperature as in the metritic and parametritic complications.

In respect to the fifth head Dr Macdonald pointed out that in some of the worst and most rapidly fatal cases of septicemia the temperature never run over 101° if so high. These cases were explained on the view that the vital centers were attacked with a quantity of poison so great that death took place before the tissue-changes producing heat occurred. On other occasions very high temperatures—104° and 105°—were due to nervous causes. Dr. Macdonald showed a series of charts illustrative of the positions maintained.—*British Med. Jour.*

OVARIAN CYST MISTAKEN FOR CANCER OF THE RECTUM: OVARIOTOMY: RECOVERY.—Mary S., a single woman, aged 43, was sent into the cancer ward of the Middlesex hospital Nov. 30 1883, as a probable case of cancer of the rectum. She was a fairly nourished, but anemic and sallow woman, and had the appearance of suffering from some severe disease.

She said her health had always been good and her menstrual periods regular up to two years ago, when the menses returned at intervals of six weeks, and she began to have continued vomiting with severe pain in the back and stomach. These symptoms lasted for one year, when the nausea ceased, and she had violent pains in the hypogastrium, lasting about half an hour every six weeks. These attacks always occurred during the menstrual period, the menstrual flow being much less than normal. These attacks gradually became more frequent and severe up to the time of her admission. During the whole of her illness she suffered from constipation, and during the last year she could only pass small lumps of feces, with great straining, except by the aid of an enema.

On examination it was found that her abdomen was distended, and thirty-one inches in girth. An area of dullness was marked out on the right side, which crossed the median line, and extended nearly up to the umbilicus. In this area a circumscribed mass ten inches in diameter and feeling like a multilocular cyst could be made out. In the median line a prominence could be felt which fluctuated, and was not diminished when the bladder was empty. On vaginal examination it was found that the posterior wall was pushed down by something in the pelvis. A diagnosis of multilocular cyst of the right ovary was made.

On December 28 she was put under the influence of an anesthetic, and Mr. Morris made an incision into the abdomen and exposed a compound cyst, on drawing the mass forwards, one of the cysts burst, and about half a pint of thick, viscid, almost clear fluid escaped. The mass was then removed from the abdomen; a small adhesion to the intestine and other very intimate adhesions to the fundus and back of the uterus being removed. Then, having put a double ligature round the pedicle Mr. Morris cut away the tumor, allowing the stump to fall back into the cavity of the abdomen. A few ligatures were put on bleeding vessels, and the actual cautery was applied to the raw serfaces of the fundus and back of the uterus, from which the adhesions had been detached. The abdominal toilet having been completed, the incision was closed with deep and superficial sutures, the whole operation being done under strict antiseptic precautions.

During the early morning of Dec. 30 the temperature went up to 101·6 but there was no pain. When dressed in the afternoon a little blood-stained discharge was noticed, and there was a little pus around the lower sutures. The lowest suture was taken out and a probe passed in between the lips of the wound but there was no more discharge. The temperature fell to 99·6 at six in the evening.

On Dec. 31 the wound was again dressed; a little redness and tenderness could be detected just below the wound, but there was very little discharge. The next suture was taken out.

The temperature kept below 99° up to the fifth of Jan., when it went up to 100·6° for an hour or two. On Jan. 3 all the sutures were taken out. There was still a little redness, and in the holes made by the two sutures previously taken out there were little sloughs.

On Jan. 6 there was a little redness and edema just below and on the right side of the lower edge of the wound. The temperature remained normal up to Jan. 8, it then going up to 102. This was thought to be due to some aperient medicine which was giving her great pain, for the redness and edema were a shade less. The temperature kept between 98° and 102° up to Jan. 13. On Jan. 11 the swelling at the lower end of the wound was found to have increased, and now extended towards Poupart's ligament, though there was no pain.

On Jan. 24 the temperature went up to 101°, and there was still no pain; but when she was quietly sleeping the nurse noticed a very offensive smell and on looking found a free offensive discharge, which the house-surgeon ascertained to come from the lower part of the wound, and to be six ounces in quantity.

After this the temperature remained normal, and there was very little discharge from the abscess. She was strong enough to sit up nearly the whole day on Feb. 6, and she left the hospital on Feb. 25.

On March 22 she called to see Mr. Morris, and said all her previous bad symptoms were gone, and that she was in good health again.

The tumor was about the size marked out on the abdomen and was composed of eight or ten cysts, three being large, and the remainder small and very tense. Some of the large ones contained fluid which had pus mixed with it, and the small ones contained thick white fluid like very thick cream, which was seen on microscopical examination to consist of pus cells. The cyst walls were thick, but very soft, and easily broken away. The pedicle was formed of the broad ligament.

Remarks.—It is worthy of note that, owing to the way the tumor was forced down into the pelvis, all the most marked symptoms referred to the large intestine. It is also noteworthy that, though the cysts were supplementary, no constitutional indication thereof existed.

THE INSANITY OF PUBERTY.—The *N. Y. Med. Jour.*, April 5 1884, tells us that Ball expresses his opinion respecting the reason for the occurrence of insanity at the age of puberty as follows :

"The reflex phenomena which play such a prominent part in grown men, attain the maximum of their development in the child as Maudsley has pertinently remarked. The majority of mental and moral operations in the first years of life are sensory and motor reflexes. Automatism plays an immense part during this period of development, and it is only by degrees that individual action is developed, which is sustained by judgment experience and volition. Puberty is therefore the period at which the greatest psychological transitions take place, and at which the mind is particularly susceptible to the inroads of mental disease. The unfavorable prognosis is moreover attributable to the mental arrest which is liable to arise from insanity at this period.

MANAGEMENT OF ABORTION.—Spondly of Zurich recommends that in every case of abortion the medical attendant should take care that nothing is left in the uterus, completely removing membranes and placenta; and that in every case of threatened abortion where the hemorrhage is profuse and does not yield to treatment, the uterus must be emptied as soon as possible. The expulsion of the placenta should not be left to nature. In this recommendation there is, of course, nothing novel, nor has Dr. Spondly any new instrument or method of effecting the desired end. The main importance and interest of the paper is in the fact that the author gives a series of fifty-three cases in which he acted on the principles which he lays down, and with uniformly good results.—*Med. and Surg. Reporter.*

—In the *Australian Medical Journal* Dr. Walsh reports a case where, twenty-nine days after the birth of a child, a second one was born. The woman had been attended by a midwife. She had made a good recovery, had nursed the first child, and was perfectly unaware meanwhile that she carried a second in utero.—*Medical and Surgical Reporter.*

MISCELLANY.

SOME OLD EDINBURGH SURGEONS.—The addresses which some of the elders of our profession have the ability and the inclination to give regarding their personal experience of long-departed scenes and men often possess a charming quality. The jealousies, the triumphs, the asperities, the eccentricities of these heroes of a former generation come down to us mellowed by the recollection of their aged witnesses with something of the rich flavor of an old vintage. We make no apology for having from time to time outlined for our readers some of these sketches. The latest such record of personal reminiscence of old-time worthies that we have met is in the address by Dr. Alexander Keiller, President of the Harveian Society, delivered at the annual meeting, April 14th. It is devoted to memories of the Edinburgh physicians of fifty years ago, among them some whose names have become world-wide. The address is to be found in the *Edinburgh Medical Journal.* Dr. Keiller speaks from his own knowledge of the "Burke and Hare" matter, which in its time created such a furore. The obtaining of subjects for dissection was a difficult matter, and in the absence of anatomy acts the graveyards were often forced to give up their dead. Popular feeling was strong against the doctors. The carriers of boxes of chests in the vicinity of the University, especially after dark, were apt to be set upon. The cry of "*a shusey! a shusey!*" (vulgate for *sujet*) was always potent to raise a mob, and the porter (though perhaps bearing a perfectly innocent burden) was sometimes beset with such vigor that he might consider himself lucky not to be made a "shusey" himself. Burke and Hare were guilty of the horrible crime of waylaying, stupefying, amd suffocating some thirteen victims, whose bodies were sold at £10 to £15 apiece for dissection to Dr. Knox. Hare turned king's evidence, and though Burke was apparently the lesser scoundrel he alone was hung. It was freely charged that Knox was cognizant of the source of his subjects, but no evidence of such knowledge was given. He was the object of great hatred, and was hung in effigy. Burke's body was exposed for two days to popular execration on a dissecting table of the University, and his tanned skin was made into purses which (hear it, ye shades of Tewksbury!) were in great demand, especially among the ladies.

The "field days" for operations in the amphitheatre were Sundays, and the numerous church-going students were wont to attend divine service in a church directly opposite the infirmary, where they sat in a gallery set apart for them. The minister was the most popular preacher in the city, and took a deep interest in the student's professional success. When the infirmary bell was heard, indicating that the operations were to begin, he (perhaps making a virtue of necessity) sat down until the gallery was emptied. The noise of the unceremonious stampede would probably have drowned his voice if he had attempted to continue preaching. "The rush from the gallery of that church," says the writer, "to the pit of the surgical theatre, in order to get a comfortable front seat so as to narrowly see the whole performance, was anything but calculated to increase the earnestness of our devotional exercises or more deeply impress us with the Gospel truths we had just listened to."

Liston and Lizars were the rival surgeons of that day. They gave a conjoint course on operative surgery, and when subjects were scarce there was some competition between them. Lizars was an exceedingly bold operator, and his attempts, even at that early day, in the line of ovariotomy made him very unpopular. He was nicknamed "Ovary John," and was freely abused as being little better than a murderer. Yet in spite of abuse and opposition, of which Dr. Keiller remembered to have heard him bitterly complain, he persevered in what he believed would become a means of saving many lives, and is entitled to the honor of being foremost among the pracitioners of that operation. Some basis for his butcherly reputation seems to have lain in his operating costume, which was, if not antiseptic, at least antihæmorrhagic. It consisted of a pair of very loose overalls, and old long-sleeved topcoat, buttoned up even beyond the throat, the better to prevent any possible squirting of blood reaching his shirt collar or necktie, which was never of the white choker stamp. His style of operating was very business-like, and his hangman garb was not out of keeping with the sanguinolent appearance customary to that small part of him which was uncovered by it.

Liston was, unlike Lizars, of a very powerful physique. A burly carter was brought into the amphi-theatre one day with an unreduced dislocation of the shoulder. An attempt had been made by the other surgeons to reduce it, but had failed an account of the resistance which the fellow had made to every effort on their part. The man was finally led like a wild beast into the ring, when Liston pounced upon him, and at once firmly grasped the immovably dislocated extremity which he proceeded to pull and twist, while the patient stormed, cursed, fought, and kicked. "Liston, however," says our author, "was quite equal to the awkward situation, and as every kick with dangerous force was launched at him in front, he knew his anatomy too well not to swing round so as to receive them on amply cushioned parts behind, until his own time came to return the madman's blows and imprecations with compounding, and, at the same time, most successful interest; for, while engaged keeping up the extension required to overcome, if possible the muscular contraction in order to facilitate the reduction aimed at, Liston knowingly and cleverly seized his opportunity, the most precious opportunity in such cases, of staggering the muscles into comparatively flaccid abeyance. Liston, while keeping up the extension with one of his big and powerful fists, and fiercely eyeing his still cursing and kicking surgical victim, loudly exclaimed, 'You d——d scounded, what are you swearing at?' and with one momentarily-released mighty right hand struck him a bang between the eyes, when immediately, through Liston's masterly manœuvering, in popped the stubborn joint of the now bunged-up-eyed carter, who obviously failed to appreciate either the laughter or the applause of the audience."

Liston seems to have had besides the strength of a lion something of that beast's disposition. He resented anything that seemed to compromise his dignity. In one of his summer clinical lectures he was speaking of the tourniquet, and its best and most applicable forms, and then exhibited a specimen which he had newly invented, and the power of which he set about showing on his own person. The instrument was on the principle of an ordinary double-padded hernial truss, with an unusually strong spring. This he managed, by using considerable force, to bend round his enormous thigh so as to reach the region over the femoral atery, and, after showing both before and behind how well the two pads fitted, it caused him no small difficulty in again releasing himself from their firm pressure; and when striving with considerable force to rebend the powerful spring, the back pad got hold of the gluteal region of his thin, light-colored, drawerless trousers, it so extensively gave way as to show, and that in the most bare-hipped fashion, the enormous extent of his lower posterior proportions, which unlooked-for exhibition could not and did not fail to receive rounds of applause as well as side-splitting laughter. One luckless youth near the lecturer was detected stuffing his handkerchief into his mouth to suppress his laughter. A few days later this young man was invited to hold a limb of a subject which had attained a green old age, while Liston amputated. The latter did not care to touch the limb save with his amputating knife, which, however, played about the fingers of the merry young man till it accidentally drew blood. The youth looked woefully at the surgeon, who laughingly exclaimed, "The more you bleed the better." Whether the young man was right is his opinion that this was done in retaliation for his own ill-timed hilarity was never known, but it is pleasant to learn that a cleverly-drawn water-color of one of Liston's most noted operation cases presented by the young man to the surgeon made the two friends.

Liston and Lizars often had difficulty in getting subjects for their conjoint course, and, it would also seem, in dividing the subjects they did get. Once it was agreed that Liston should have the next one that arrived. It came in a "chest of tea" all the way from Ireland. Lizars knew it was on the way, but said nothing. Liston would not have discovered its arrival had not a mob seen it, and attacked the carrier, who was protected only by the arrival of a constable. Of this part of the story Lizars was ignorant. He told one of the students if Liston came to the building to say that he (Lizars) had gone away, and would not return for some time. Liston arrived to claim his subject, and even while the lying message was being given, Lizars, with incautious haste, peeped over the stairs in his dissecting gown, and said "Is he away?" Of course the cat was out of the bag at once. Liston, with a "You lying little devil," threw the offender over his shoulder, and carrying him up to the dissecting room landed him with a shake in the middle of the floor, to the amusement of the students and of Lizars.

Such a story shows as well as anything the change in public sentiment from a day when such petty tricks could be resorted to between two leading teachers in a great university. So does also the fact, which our author considers not only true, but a matter of no surprise, that Syme *bought* the chair of clinical surgery from its former occupant, Russell, for £300 a year. That is, be paid that sum to have Russell retire at a time when the latter's influence would be able to put Syme, to the exclusion of any of his rivals, into the professorial chair. —*Boston Medical and Surgical Journal.*

GIFT TO BELLEVUE HOSPITAL MEDICAL COLLEGE.—Mr. Andrew Carnegie, one of the trustees of this school, has recently given the sum of fifty thousand dollars to the college, to be expended in the erection of a building, and in apparatus for laboratories for practical work and teaching in everything relating to microscopical and experimental research in the different departments of medicine. The building will belong to the Bellevue Hospital Medical College, but the advantages pertaining thereto will not be restricted to the students connected with the college; they will be open to students connected with other schools and to members of the medical profession throughout the country. It is believed that there is now no distinct building in this country on so large a scale as that which it is proposed to erect, exclusively devoted to the same object.—*The Medical News.*

CROSSING THE LEGS, AND THE MODE OF SITTING.—M. Delaunay, of Paris, has made an extended and careful investigation to ascertain if, in the majority of cases, the right upper and lower extremity be crossed over the left, or the left over the right, and which side most persons incline to when in the sitting posture. According to M. Delaunay, certain breeds of dogs, such as terriers, Newfoundlands, and poodles, cross the right paw over the left. The Chinese and Japanese cross the left arm over the right. Europeans cross the right over the left. M. Delaunay observed, in the *creches* and *salles d' asiles*, that infants under three years of age cross the left arm over the right, older children crossing the right over the left; sixty per cent. doing so at six years of age. Robust children cross the right arm over the left; the idiotic and weak, including those who are incapable of working, cross the left over the right. The Calmucks and Arabs cross the right over the left, like the Europeans. A great many women cross the left leg over the right. Among the opera-dancers some always cross the right leg over the left, but not one the left over the right habitually; the majority cross the left over the right or the right over the left indifferently. Robust children cross the right leg earlier than their weaker playmates. Persons who cross the right leg over the left lean towards the left when sitting, those who place the left uppermost lean to the right. Hence, consistently with what might have been expected from what is observed in children with regard to crossing legs, until six years of age children lean towards the right, and afterwards towards the left. French schoolmasters, it would appear, try to prevent their pupils from assuming this position, believing that scoliosis results, hence they encourage or enforce the use of elbow-rests (*acoudoirs*), which oblige the children to sit straight, a useless measure according to M. Delaunay, as the position they choose is in conformity with the process of evolution. Tailors affirm that the back of a pair of trousers is always more worn on the left side than on the right. Left-handed people always sit towards the right. M. Delaunay concludes from these observations that the left brain develops previously to the right, and finally the right predominates.—*The Brit. Med. Jour.*

INFANTICIDE IN FRANCE.—A report has been recently made to the President of the French Republic, in which it appears that in 1882 legal proceedings were taken with respect to 171 cases of infanticide, ninteen abortions, and 177 of what is termed the suppression or exposition of infants. The report then goes on to explain that the proportion of acquittals for each of these crimes amounts to forty-two, fifty-five, and sixty-one per cent. respectively. As we may be morally certain that nearly every one of the accused was in reality guilty, the enormous proportion of acquittals must seem inexplicable to those who are not intimately acquainted with the conditions of French society. Just, however, as this official report was in course of publication, a seamstress, living in a garret in the Boulevard Voltaire, committed suicide by means of charcoal fumes. The following words were found on the mantelpiece: "I die because I am abandoned at the moment I am about to become a mother." This simple incident explains the statistics we have quoted. The search for proof of parentage is forbidden by the French law, and French juries, knowing that the law gives no protection to betrayed and abandoned women, cannot be made to convict, even where the guilt is patent.—*Medical and Surgical Reporter :*

PROFESSOR VIRCHOW, the celebrated anatomist, has written to the newspapers to express his opinion, come to after careful scientific investigation of the subject, that the danger arising from trichinosis in German pork is "infinitely greater" than the peril of an epidemic from American-bred pigs, and that, to be consistent, the Imperial Government, which has forbidden the importation of all sorts of pig-flesh from the United States, ought not to allow the rearing of any swine at all in Germany.—*The Brit. Med. Jour.*

BODILY LOCATION OF HUMAN HAPPINESS. — Dr. B. W. Richardson, in the *Asclepiad*, treating of felicity as a sanitary research, observes: "The center of the emotion of felicity is not in the brain. The centre is in the vital nervous system, in the great ganglia of the sympathetic, lying not in the cerebro-spinal cavities, but in the cavities of the heart itself, near the stomach and in the heart. We know where the glow that indicates felicity is felt, and our poets have described it with perfect truthfulness as in the breast. It comes as a fire kindling there. No living being ever felt happy in the head. Everybody who has felt felicity has felt it as from within the body.

We know, again, where the depression of misery is located. Our physicians of all time have defined that, and have named the disease of misery from its local seat. The man who is miserable is a hypochondriac, his affection is seated under the lower ribs. No man ever felt misery in the head. Every man who has felt misery knows that it springs from the body, speaks of it as an exhaustion, a sinking there. He is broken hearted, he is failing at the center of life. He is bent down because of the central failure, and his own shoulders, too heavy to be borne, feel as if oppressed by an added weight or burden, under which he bends as though all the cares of the world were upon him to bear him down."

Commenting on this the *Lancet* says that, in other words, felicity is a physical result of a brisk and healthily full circulation of the blood through the vessels supplying the ganglia of the great sympathetic system of nerves, and whatever quickens, and at the same time frees the flow of blood in these vessels particularly, engenders the feeling we call happiness. This is the fact, and we believe that it explains the action of many articles of food and medicine and medical appliances. It moreover explains and confirms the truth of the maxim which we have so often recommended for general adoption. "Be briskly, not languidly, joyous if you would be well." This is the converse of the doctrine that happiness is an affair of the heart and stomach. A comfortable, as contrasted with an austere life, is the most natural, and, therefore, the healthiest and best.

We sometimes wonder why those who live by rule, and tremble as they live, laboring to eat end drink precisely what is "good for them," and nothing else, are so weakly and miserable. The cause of failure is that such persons are over careful; life is a burden to them. They have no "go" in their mode of existence. One-half of the "dyspeptics" we see, and whose sufferings we are asked to relieve, would be well if they were only happy. Everything in life and nature acts and reacts in a circle. Be happy, and your sympathetic ganglia will have the blood coursing through them with the bounds of health, and this quickening of the pulse, if it be produced by "good cheer," whether at the table or on the mountain side, will, in its turn produce happiness. Felicity is the outcome of a physical state, and that state is itself enhanced by the sort of cheerfulness which often consists in being happy in spite of circumstances.

CRIMINAL ABORTION AND MURDER.—At the Liverpool Winter Assizes, on Tuesday, February 19th, Sarah Mallinson, a married woman, fifty years of age, was convicted and sentenced to death for the willful murder of Louisa Brierly, a single woman, aged twenty-eight, by procuring abortion. William Smart, a clerk, of Huddersfield, was tried as an accessory before the fact, and was also convicted and sentenced to death. It appeared from the evidence that the deceased was pregnant by the prisoner, Smart. The prisoner Mallinson received the deceased into her house in Sussex street, Lower Broughton, Manchester, and after being there about a week the deceased died. The evidence made it perfectly clear that the female prisoner had used an instrument on the deceased on at least two occasions, and that death resulted from peritonitis in consequence. The post mortem examination was made by Dr. Maguire and Mr. Stocks, of Salford. Mr. Justice Butt commented severely on the fact of Dr. Estcourt not informing the police as soon as he knew of the abortion having been procured, he having been called in by the prisoner Mallinson, and having treated the deceased for peritonitis. The prisoner

Smart was proved to have paid the female prisoner money for what she was to do, and the judge laid it down to the jury that if they believed that Smart induced the woman by an offer of money to perform the operation, he, though absent, was just as guilty of the crime of murder as if he had been present throughout. If two persons are engaged in the attempt to procure abortion, and the death of the woman operated upon ensued, then they were undoubtedly guilty of murder.

This crime would appear to be rather common in Manchester and its neighborhood. Some years ago Alfred Thomas Heap was convicted at Liverpool under very similar circumstances, and was executed, having previously received five years' penal servitude for procuring abortion. And in 1859 a German practitioner (Stadtmühler) from the same city, was convicted and sentenced to death for the murder of a woman on whom he had procured abortion, although in his case the death penalty was not inflicted. It is lamentable to see how little effect these sentences appear to have in checking this crime, and it must be evident that the cases which come before the courts form only a very small proportion of those which really occur. — *Lancet.*

PERSISTENCE OF FLORAL FORMS. — Dr. G. Schweinfurth, in examining the floral wreath on the mummy of the Princess Ugi-Khouni, of the twenty-first Egyptian dynasty, discovered, says *Nature.* at Deriel-Behan, the folded leaves of a willow (*Salix Safsof*), perfect flowers of the corn-poppy, flower-heads of *Centaurea depressa*, and of *Picris coronopifolia*. The flowers of the corn-poppy appear to have been gathered in an unopened condition, to prevent the petals from falling, and were in such good condition that Dr. Schweinfurth remarks that such perfect and well-preserved specimens of this fragile flower are rarely to be met with in herbaria. It is worthy of note, too, that the character of this variety of the poppy (*Papaver rhœas*, var., *genuina*,) although gathered more than 3,000 years ago, are identical with those of the same variety known to-day. With respect to *Picris coronopifolia*, the author remarks that not a single peculiarity is apparent by which it might be distinguished from the recent small form, with low-spreading branches, now common on the out-skirts of the desert. From the presence of this flower in the wreath, it is possible to conjecture that the burial of the princess took place in March or April, since there would have been considerable difficulty in obtaining the flowers after the latter month. It has also been determined, by the capsules of the linseed-plant found in a Theban tomb of the twelfth dynasty (2,200 to 2,400 B.C.), that the flax used by the ancient Egyptians was derived from *linum humile* Mill, and that the mustard oil used by them was derived from one of two varieties of sinapis, both of which are still common in Egypt.—*British Med. Jour.*

SUBSOIL DRAINAGE BY THE EUCALYPTUS GLOBULUS. — A curious instance of the power of the eucalyptus globulus to drain wide areas, and of the distance to which its roots will penetrate, is afforded by a story which comes from Alameda County. The owner of Bay Island Farm recently found a curious root-formation in the bottom of his well, about 16 feet below the surface. The trees to which the roots belonged stood 50 feet from the well. Two shoots had penetrated through the brick wall of the well, and sending off millions of fibres, formed a dense mat that completely covered the bottom of the well. Most of these fibres were no larger than threads, and were so woven and intertwisted as to form a mat as impenetrable and strong as though regularly woven in a loom. The mat, when first taken out of the well, was water-soaked and covered with mud, and nearly all that a man could lift, but when dry it was nearly as soft to the touch as wool, and weighed only a few ounces. — *British Med. Journal.*

AN INTERESTING TREE.—At a recent meeting of the Berlin Medical Society, Professor Virchow showed photographs of a gigantic plane-tree in the island of Cos, under the shade of which Hippocrates is said, by tradition, to have held medical consultations. The tree now stands in the market-place of the town of Cos, on the east side of the island. The branches, which spread over nearly the whole of the market-place, are supported by marble pillars.

DR. KOCH.—Germany is not less grateful than munificent to her men of science. In the Reichstag, Herr von Bötticher brought forward a Bill for placing the sum of 135,000 marks, or £6,750, at the disposal of the Emperor, in order to reward the members of the German Cholera Commission for their brilliant and important discoveries in Egypt and India. This Bill was passed on Tuesday by acclamation, when Professor Virchow, welcomed this the first occasion, as he said, on which he had ever been able to give his full support to the Government, and paid a high compliment to the energy, the diligence, the intelligence, and the disregard of danger, which had won for German science such a spendid victory. But, though Dr. Koch had discovered the germ or bacillus of cholera, medical men should not be too sanguine about the future prevention and cure of the disease. Ot the sum, 100,000 marks will be assigned to Dr. Koch, the chief of the commission, and the rest divided among his colleagues. A less substantial, though equally honorable, reward has been conferred on Dr. Koch, in the shape of a high decoration—the Crown Order of the second class. Lastly, at a sitting the other day of the Imperial Board of Health, the great nosological explorer, in addition to being officially eulogised for his successful researches, was presented with a life-size bust of the Emperor, by a distinguished German sculptor.—*Brit. Med. Jour.*

THE NORTH AMERICAN REVIEW for June opens with an article on "Harboring Conspiracy," by Prof. Henry Wade Rogers. Henry D. Lloyd, in the same number of the Review, shows how every branch of production is coming under the centrol of "Lords of Industry," corporations and monopolies. Elizabeth Stuart Phelps has an article marked by rare philosophic force upon the "Struggle for Immortality." Other articles of not less importance are: "Sociological Fallacies," by Prof. W. G. Summer: "The Rise and Fall of Authority," by President J. C. Welling; "Walt Whitman," by Walker Kennedy; and a symposium on "Expert Testimony," by Rossiter Johnson, Dr. W. W. Godding, T. O'Conor Sloane and Dr. Charles L. Dana.

ORIGIN OF CANNED FRUITS.—It is a singular fact that we are indebted to Pompeii for the great industry of canned fruits. Years ago, when the excavations were just beginning, a party of Cincinnatians found, in what had been the pantry of the house, many jars of preserved figs. One was opened, and they were found to be fresh and good. Investigation showed that the figs had been put into jars in a heated state, an aperture left for the steam to escape, and then sealed with wax. The hint was taken, and the next year fruit-canning was introduced in the United States, the process being identical with that in vogue at Pompeii, twenty centuries ago. The old ladies in America who can tomatoes and peaches do not realize that they are indebted for this art to a people who were literally ashes a few years after Christ. There is nothing new under the sun. Canned tomatoes and loaded dice—the people of Pompeii had both.—*American Druggist.*

BRAIN WORK—The London *Lancet* says: "Brain tension is not a proof of strength, but of weakness. The knit brow, straining eyes and fixed attention of the student are not tokens of power, but of effort. The intellectual man with a strong mind does his brain-work easily. Tension is friction, and the moment the toil of a growing brain becomes laborious it should cease. We are unfortunately so accustomed to see brain-work done with an effort, that we associate effort with work, and regard tension as tolerable, if not natural. As a matter of fact no man should ever knit his brow as he is thinking, or in any way evince effort as he works. The best brain-work is done easily with calm spirit and equable temper and in jaunty mood. All else is the toil of a weak or ill developed brain straining at a task too great."

OIL OF EGGS.—Among the colonists who have recently come to this country from south Russia, the chief remedy for cuts, bruises, scalds, and burns is oil of eggs, and extraordinary stories are told of its efficacy and healing power. It is easily made from the yolk of hen's eggs. The eggs are first boiled hard, the yolks removed, crushed, and placed over a fire, where they are watched and stirred until the whole mass is on the point of catching fire. At this moment the oil separates and may be easily decanted. One yolk yields about two drachms of oil.

A KNOWING WITNESS.—At a recent trial in this city a medical "expert" was examined in regard to certain points in neurology. In the cross-examination he was asked if he recognized a particular book as authority in the matter, and the question was repeated in regard to another book, and then another. His answers were to the effect that he was familiar with all the books mentioned, and that they were authorities on the matters alluded to. The medical witness was then allowed to leave the stand, and the lawyer's clerk was sworn, who testified that the titles of the works in question were fictitious, having been concocted in the law office to which he was attached.—*N. Y. Med. Journal.*

Bibliography.

REMSON'S THEORETICAL CHEMISTRY. (1)

The little work known as "Remsen's Theoretical Chemistry" is not, as its name might imply, a treatise upon the science in general, but rather confines itself to a discussion and argument of the underlying principles and hypotheses relied upon by chemists. Says the author, "I have endeavored to discuss in an impartial way, as objectively as possible, the principles and hypotheses which at present play important parts in the science of chemistry. * * * My object has been to point out as clearly as I could the exact connection between the facts known to us and the hypotheses." The author has handled the subject in a manner so simple that due study of this work throws light upon the fundamentals necessary to a clear comprehension of methods and reasoning used in chemical analysis and synthesis. C. W. S.

ELEMENTS OF HUMAN PHYSIOLOGY. (2)

This little volume is one of a uniform series of manuals for students, and is intended for use in connection with the other volumes of the set. Some of these works, particularly Klein's "Elements of Histology," are already well known, and have been almost universally received with favor.

That students require a set of books that are brief, concise and more portable than our ordinary text-books, for use during the lecture seasons, admits of no question. The introduction of these little volumes, carefully and conscientiously prepared by trustworthy authors is therefore commendable.

The volume before us shows great care in the selection and treatment of topics. The statements are accurate and concise, although in some instances rather dogmatic—a feature that is not objectionable, however, in a work like this. All controversy and argument on disputed questions is carefully avoided and the facts are stated in an admirably lucid and interesting manner.

A few unimportant typographical errors remain, for instance, on page 117, in referring to post-mortem self-digestion of the stomach, the passage "It is not uncommon to find a large ragged orifice with *them* and softened edges"; doubtless should read "with thin and softened edges." On the next page the word "embola" appears. The pleural emboli, is preferable. In the index "Fibrin" is referred to p. 415 instead of p. 15. The orthography is English.

The work contains almost 400 pages and is divided into sixteen chapters and an appendix. The former treat in their order the various organs and their functions, in the latter are considered a number of the more important substances not included in the body of the work. J. M. F.

ELEMENTARY PRINCIPLES OF ELECTRO-THERAPEUTICS. (3)

This manual of 426 pages is designed more particularly for the use of students and practitioners who enter upon the study of electricity for the first time. It discusses in a clear and concise manner the elementary principles of Magnetism, Franklinism, Galvanism and Faradism. The explanations are free from technicalities and will therefore prove more attractive and serviceable to a beginner than an elaborate treatise replete with mathematical deductions and scientific theories. The

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1 Principles of Theoretical Chemistry, with Special Reference to the Constitution of Chemical Compounds. By Ira Remson, Professor of Chemistry in the Johns Hopkins University. Second edition, thoroughly revised and enlarged. Philadelphia: Henry C. Lea's Son & Co. Cincinnati: Robert Clarke & Co. 12 mo. 238 pp.

2 By Henry Power, M.B., Lond., F.R.C.S., etc. Illustrated with 47 engravings. Philadelphia: Henry C. Lea's Son & Co. Cincinnati: Robert Clarke & Co. Price, $1.50.

3 Elementary Principles of Electro-Therapeutics, for the Use of Physicians and Students. With 135 Illustrations. Prepared by C. M. Haynes, M.D. Published by the McIntosh Galvanic and Faradic Battery Co., Chicago, Ills. Price, $2.00.

definitions are, for the most part, clear and easily understood, although in some instances clearness is sacrificed at the expense of conciseness. This latter defect is, however, again somewhat remedied by the addition of a complete vocabulary of electrical language, which contains all the terms employed at the present time in this science and defined according to the revision adopted by the Electrical Congress which assembled in Paris in 1881. This vocabulary is a valuable addition, as it facilitates reference to such technical phrases as are interspersed throughout the work and which may escape the memory in the course of further study. Although prepared for and published by the McIntosh Galvanic and Faradic Co. for the purpose of bringing their instruments and appliances more prominently before the medical public, as the illustrations will show, this book is not a mere advertising medium, because the subject of electricity itself is handled in an impartial and scientific manner. It would, however, be more properly styled "Elementary Principles of Medical Electricity," as the subject of electro-*therapeutics* proper occupies really less than one-half of the space of the book, and this part is perhaps the least satisfactory because the directions are too concise. However, electricity, as applied to medicine, is not yet fully understood and any effort to make its study more general and legitimizing its application in therapeutics by taking it out of the hands of charlatans who style themselves "electricians" and placing it in the hands of the regular practitioner ought to be encouraged.

To all, then, who desire a plain and ready reference work on Medical Electricity and especially students, "who wish to commence at the beginning and master the foundation principles of electrical science before attempting to become acquainted with the theories and elaborate investigations of the founders of this science" this work is to be recommended. To the possessors of the various McIntosh electrical instruments and appliances this manual is almost a necessity, because, besides the general principles of electricity, it contains an accurate description of all of the various instruments made by this firm and gives full directions for taking proper care of them. The typography, illustrations, and general workmanship of the book are all excellent. W.H.W.

THE ANTI-SEPTIC METHOD OF DR. DÉCLAT.

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Syrup of Sulpho-phenique (Syrupus sulpho-phenicus "Déclat.") $NH_3,C_{12}H_6O_2,HS$.
A tablespoonful contains sulph. hydro. phenatis ammoniæ gr. ij$_{1-6}$. Dose for adults, f ℥ss. t. i. d. to f ℥ss. q 4 hr. Chronic Coughs, Catarrh, Asthma, Rheumatism, Skin Diseases.

Syrup of Ammonia Phenate (Syrupus ammoniæ phenatis "Déclat").—$NH_3,C_{12}H_6O_2$.
A tablespoonful contains ammonia phenate gr. ij$_{4-5}$, tr. Thebaic, ɱss. Dose for adults, f ℥ss. q. 3 hr. Influenza, Croup, all Fevers, Acute Forms of Disease, Paroxysms of Asthma.

Syrup of Iodo-phenique (Syrupus Iodo-phenicus "Déclat").
A tablespoonful contains iod. metal. gr. $_{1-14}$; potass. iod. gr. $_{3-14}$; acid. phenic. nasc. gr. $_{9-11}$. Dose for adults, f. ʒss. t. i. d. Glandular Enlargements, Tumors, Ulcerations, Scrofula, Syphilitic Cephalgia, Ostealgia.

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Original Articles.

IMPORTANCE OF CORRECT DIAGNOSIS IN THE TREATMENT OF DISEASE.

By Wm. H. Jones, M. D., Jeffersonville, Ohio.

About twenty-eight years ago I was called to attend John Coil, aged about seventy. He was unable to void his urine for four days and nights, and his family physician after repeated attempts with catheters and internal remedies had utterly failed to relieve him. I found him lying on his back apparently unconscious. From the history of the case I was satisfied that he had suffered for the last year or two with stone in the bladder. His physician had repeatedly and with no difficulty, and without pain to the patient introduced the male catheter the full length without drawing any urine, and time and again I repeated the operation myself with the same result. I also found that having introduced the gum catheter with the wire, bent into the ordinary curve of the metallic male catheter, I could revolve it on its axis while thus in the urethra without the least difficulty, and without pain to the patient. I repeated the operation with a silver male catheter with equal ease, and introduced it full length and revolved it as before, without the least flow of urine. I then concluded that the urethra had been perforated, and that my catheter had entered a false passage, and thereby failed to enter the bladder. Suiting the action to the thought, when the point of the catheter approached the pubic arch, with my left hand I applied moderately firm pressure over the point as it caught under the rim of the arch, simultaneous with a sudden downward and forward movement of the right hand which grasped the other end of the catheter, and out spouted the urine. An exclamation at once burst from the patient's lips: "That's it. That relieves me!" After discharging about a quart, I plugged the catheter so as to explore the bladder for stone. The room was crowded with his children, grandchildren and neighbors, who were much excited. I requested silence. Then his oldest son, about fifty years of age, said: "You need not put yourself to that trouble. My father has no gravel. For I took him him to Dr. Howard of Columbus three different times, the last time only four months ago, and he said there was no gravel." While he was speaking, I struck a calculus twice, and revolved the catheter half way round and struck what seemed to be a calculus. I then responded: "There is a gravel here now; and a very large one too, or else there are two of them. For the point of my catheter strikes it on one side, and when turned around it strikes it on the other." Hearing the catheter clicking on the stone, they all were satisfied, except an old neighbor who said he would not believe it unless he saw it. I then discharged the remainder of the urine. The patient was cheerful, and took nourishment, and I now left him in charge of the attending physician. Early next morning his son came to me, stating that his father had taken worse early in the evening and died at 2 a. m., and the family desired a post mortem. I performed the operation of lithotomy on him just as if he were alive, and with the assistance of the attending physicians I removed two calculi from the bladder; one ovoid, as large as a hen's egg, the other as large as a big burr-oak acorn, and of similar shape. A few months afterward I met Dr. Darling, a relative of Dr. Howard, and asked if he remembered old John Coil of Fayette County, O., when he was examined by his uncle at Columbus for calculus of the bladder. He answered, "Yes but Coil had no gravel. I helped my uncle to examine him three different times, but we could find no gravel." I replied that he had, and related the above history, and asked him what kind of instrument his uncle used in making the exploration. He answered that it was a solid steel sound, for what other should he have used? I replied, a metallic catheter, a hollow and not a solid instrument. Then he would have known to a certainty whether his instrument had entered the bladder or not, and he would not have erred in his diagnosis. His skill and ability were unquestioned, but he was misled in his exploration by a fashionable but inadequate instrument. Hence his diagnosis was incorrect and unfortunate for his patient.

About ten years ago my wife's father, J. Hidy of Jeffersonville O., aged ninety years, received a message that his nephew George Kious, aged forty-five years, of Madison County, was not expected to to live, and wished to see him before he died; he went. My wife and I and the baby (accompanied by a yaller dorg) followed the next day. On our arrival there grandfather said, "I want you to examine George carefully and see what can be done for him. The doctors have given him up to die, they say. It seems to me he ought not to die now; examine him carefully, and see if if you can do something to save him." Such was the salutation I received on entering the gorgeous palace of the sick man!!! The physicians who waited on him were absent. I was unacquainted as to the duration and character of his illness at the time. He was almost speechless, pulse rapid but feeble. The right cheek was enormously swelled, pushing the mouth, nose and eyebrow to the left with much distortion, and for the last week or more he had been unable to take any other than liquid nourishment. I first examined the swelling on his face. Palpation disclosed deep seated fluctuation. The swelling extended over the angle of the jaw below the ear, and there was slight swelling below the left ear. On inquiry I found that the swelling had commenced three weeks before, and that previously the patient had been in good health. I said to the patient that I would like to look into his mouth; to which a lady present replied that he could not open his mouth. But with the assistance of a friend I opened his mouth, and depressed the tongue with the handle of a spoon, when both tonsils were seen protruding, and pushing forward the uvula. I immediately cut the tonsils with my gum lancet, and that kept him busy half an hour hawking and spitting nasty greenish pus. He then regained his voice which had been lost for ten days, took some solid nourishment, and had a refreshing sleep. The next morning I was asked by the attending physician to lance the cheek on the outside. I did so, and a large amount of thick greenish pus poured out freely. Three hours before my arrival Dr. Hamilton, the consulting physician, had declared that the swelling was a carbuncle, and the case hopeless. Mr. George Kious is now living at Mt Sterling. He was suffering from scarlatina as developed in the adult. Dr. Hamilton erred in his diagnosis by neglecting the history of the case in its early stages. Three weeks before my arrival the childen of Mr. Kious and one of his neighbor's broke out with unmistakeable symptoms of scarlet fever, and one of them died from dropsical effusion a few weeks afterward, but in the father the throat symptoms were the prominent feature.

The Lancet & Clinic and Obstetric Gazette to one address one year for $5.00.

HEPATICA.

By C. G. Lloyd, Cincinnati.

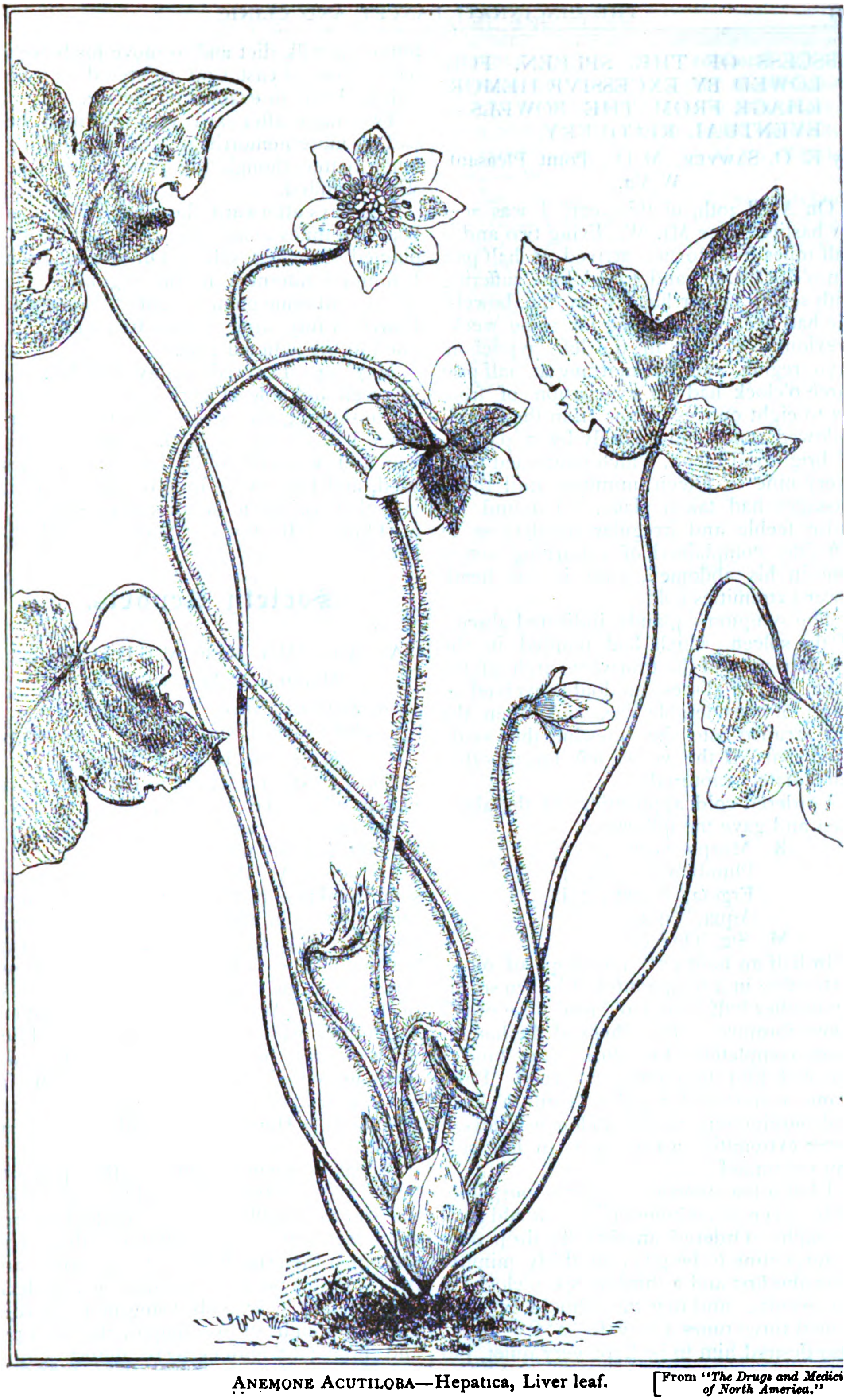
We present this week an engraving of Anemone acutiloba, one of our native plants which furnishes the greater part of the drug Hepatica collected in this country. There are two native species. The other Anemone Hepatica differs only in having blunt lobes to the leaves, and although it alone is recognized by the Pharmacopœia, yet it furnishes but a small part of the commercial drug. In old botanical works, and in some recent ones too, the plants are classified under the generic name Hepatica, and this name will probably always be retained by the drug trade for the drug. Recent systematic botanists, however, mostly agree that they are not sufficiently distinct from Anemone, and include them in that genus. Our species are both the earliest spring flowers, and are found in all sections from Missouri and Iowa to the Atlantic. The flowers vary in all shades from pure white to deep blue, and are very popular with children who frequent the woods in spring, who often call them "May flowers."

The leaves are not developed at the time of flowering, but can be seen in the picture folded in the bud. The expanded leaves shown in the picture are last year's leaves which persist during the winter. Having lost most of their vitality they wither away shortly after the plant blooms.

Note.—The engraving which accompanies this article is taken from "*The Drugs and Medicines of North America*" published by J. U. & C. G. Lloyd at 180 Elm St, Cincinnati, Ohio. It is a quarterly which will systematically consider the native medicinal plants, and is intended to be a *complete encyclopedia* of all that is known regarding the History, Botany, Pharmacy. Chemistry and Therapeutics of American drugs and the plants which yield them. Subscription price, $1 00 per year. We are pleased to announce that we have arrangements with Messrs. Lloyd to reproduce from time to time illustrations from their magazine.

Dr. Giovanni Paccinini ligated the subclavian artery on a boy, fourteen years of age, on January 5th, in Rome. The operation was done on account of a wound of the left axilla, which involved the artery and vein. The boy was in a satisfactory condition fifteen days afterward.

Salicylate of Sodium, when administered in large and repeated doses, has been followed by metro-neuralgia.



ANEMONE ACUTILOBA—Hepatica, Liver leaf.

[From *"The Drugs and Medici*
of North America."

ABSCESS OF THE SPLEEN, FOLLOWED BY EXCESSIVE HEMORRHAGE FROM THE BOWELS.—EVENTUAL RECOVERY.

By E. O. Sawyer, M.D., Point Pleasant, W.Va.

On April 30th, of this year, I was sent for hastily to see Mr. W., living two and a half miles from town; arrived at half-past ten o'clock a.m., and found him suffering with severe hemorrhage from the bowels. He had been complaining for some weeks previously of pain in the left hypochondriac region, and that morning at half-past three o'clock had an evacuation of from six to eight ounces of pus from the bowel, followed almost immediately by a passage of bright red blood, which continued from every nine to fifteen minutes until thirty passages had taken place. I found his pulse feeble and irregular, tenderness in left side, complained of a burning sensation in his abdomen, pain in his head, lower extremities cold.

The symptoms plainly indicated abscess of the spleen, which had pointed in the left extremity of the transverse arch of the colon. The abscess no doubt involved an artery of considerable size, and when the pus escaped into the intestine the weakened coats of the vessel left unsupported immediately ruptured.

I ordered cold applications to the abdomen and gave the following:

℞. Morph. acet., gr. ½,
Plumbi acet., gr. j,
Ergota, fl. ext., ʒ j.
Aqua, q.s.
M. Sig. One dose.

In half an hour gave ten drops of oil of turpentine in a teaspoonful of brown sugar. In another half hour a reduced dose of the above formula. This checked the hemorrhage completely, for, during the hour I was with him, no blood was passed. Pulse stronger slow and regular, pain in head and burning sensation in abdomen relieved, lower extremities warm, pain in left side still continued.

I left a few powders, acetate morphine, to be given at bedtime or if he should have a cough. Ordered another ten-drop dose of turpentine to be given in thirty minutes after the first and a third at six o'clock in the evening, and that they should be continued three times a day for a few days; also desired him to be kept very quiet, put him on a milk diet and to move his bowels with a dose of castor oil in three days if he did not have an evacuation before.

Two days afterward was informed he had no more hemorrhage, and was feeling much better, though the pain in his side still continued.

Ten days afterward the patient rowed a boat two miles to see me. He still complained of his left side. On examination I found tenderness in the region of the spleen and some enlargement of that organ. I advised turpentine stupes frequently applied to the afflicted part.

May 24. Learned to-day that Mr. W. was well and able to work his farm.

Considering the severity of the hemorrhage I was surprised at the readiness with which it was controlled by the remedies used, and I find very little in regard to it in either Erichsen or Bryant's "Surgery" or Flint or Bristow's "Practice of Medicine."

Society Reports.

ACADEMY OF MEDICINE.

Meeting of May 19, 1884.

W. H. WENNING, M.D., *Pres't in the Chair.* G. A. FACKLER, M.D., *Secretary.*

Progressive Muscular Atrophy

Dr. Zenner presented to the Society, a patient who gave the following history.

She is thirty years of age; dates the beginning of the present trouble to four years ago. At that time she observed some weakness in the right leg, could not raise the foot in walking as well as before, nor arise easily from a sitting to a standing position. The same weakness was soon observed in the left leg and in the muscles of the back. Within two years, the upper extremities were likewise affected. The disease has been progressive. Patient states her condition is worse now than it was a year ago. She mentions no other symptoms. Her general health has been good.

Speaker then examined the patient before the society. She could only raise the arm to a small extent, the deltoids were much weakened. She could flex the forearm upon the arm, but when she tried to hold it in this position, speaker succeeded in extending it, scarcely using more force than the weight of his finger; the biceps and brachialis anticus were almost completely paralyzed. The extensors of the elbow, the flexors of the fingers and wrist, the small muscles of the hand still retained considerable power. Tested in the same way, it was observed that the muscles of of the back, the erector spine, etc., the extensors of the knee were very greatly weakened, while other muscles of the lower extremities, the flexors and extensors of ankles, flexors of knees, etc., were also weakened though much stronger than the last named muscles.

When patient was requested to arise from her seat, she did so in a very peculiar manner. She succeeded in extending the legs at the knees by pressing with her hands against the thighs, and then raised the trunk erect upon the legs by supporting herself with her hands upon the chair. In trying to raise up the body, an excessive curving of the spine in the lumber region is produced, showing, a wonderful laxity of these parts, owing to the muscular paralysis.

Exactly the same conditions can be seen in little sufferers with pseudo-hypertrophic paralysis before the disease has extended far enough to cause complete paralysis. The little patients in trying to rise, owing to the weakness of the extensors at the knees and hips assist themselves with their hands, climbing upon themselves as it were.

It is remarkable that this woman, with the great loss of power in some of the muscles should be able to stand or walk at all. It seems that when by extraneous means, she succeeds in standing up the erect position is maintained through all the parts being equally poised, and that every effort is then taken not to lose her equilibrium.

In addition to the muscular weakness there is to be observed some wasting of muscles, and alteration in their electrical reactions.

The speaker stated that he wished to test the muscles in the presence of the gentlemen present, as this was a very important feature in this case, in fact that upon which the diagnosis was based. The extensors and flexors of the elbow were selected for this examination. The extensors were still strong, the flexors almost completely paralyzed, and when the faradic current was applied to these muscles, the extensors responded readily, while in the flexors no contraction was observed. The speaker then stated that he had at the patient's house thus examined all the muscles, aud found that they reacted to the faradic current in all cases in proportion to their still retained power, some contracting as well as usual, others not at all, others in a weakened manner.

This change in the electrical reactions, as well as the atrophy shows that we have here a peripheral paralysis. Some wasting may occur from mere disuse, or as a result of central disease as in hemiplegia. This is physiological atrophy, with no structural changes in the muscles, and no alterations in the electrical reactions.

But when the electrical contractility is lost, the atrophy is a pathological one and due to peripheral disease. The disease is either in the muscles themselves, in the nerves supplying them or in their trophic centers, the anterior cornua of the gray matter of the cord.

In this case the disease is not in the nerves for there are no sensory symptoms, neither pain nor anesthesia, which would be present if the nerve trunks were impaired. Such cases of general muscular atrophy are now commonly attributed to primary disease of the cord. For a long time many of them were thought to be primarily in the muscles, and this opinion is still held by some. It was based principly upon the fact that postmortem examinations were usually negative, no changes being found in the cord. This difficulty has been largely removed. With more careful and better methods of examination changes of the kind anticipated, are now generally found. But there are still some classes of cases, especially the pseudo-hypertrohic paralysis, in which postmortem examinations have been so for almost entirely negative. Nevertheless, on account of the distribution of the disease, and its analogy to others of this class we must believe the disease here is also of central origin. But the pathological changes are so slight that they still, perhaps will always escape detection.

This general class of muscular atrophies go under the name of anterior poliomyelitis. To what particular disease in this class does this case belong?

Acute poliompelitis is represented by the essential paralysis of children and atrophic spinal paralysis of adults. This case does not belong here for the patient states her illness began four years ago.

Hers belongs to the chronic forms of anterior poliomyelitis, which according to the present nosology, includes pseudo-hypertrophic paralysis and progressive muscular atrophy.

The ordinary course of progressive muscular atrophy is well known. It usually begins in the small muscles of the hand, less frequently in the deltoids, attacks successively various groups of muscles in the upper part of the body, though not in regular order, and only at a much later period involves the inferior extremities. Sometimes the medulla becomes affected, with the manifestation of glossolabial paralysis. In rare cases, there are trophic changes, inflammations of joints, affections of the skin, pemphigus, etc., which indicate that the pathological changes have extended to other parts than the anterior cornua, though to exactly what parts is not yet known. Sensory symptoms, pain, anesthesia, etc., are occasionally present and can be explained in the same way. This lack of uniformity in the manifestations in different instances is still more noticeable from the different manners in which muscle groups become involved in the disease, and the differences in the ages of those who are attacked.

This apparent diversity in symptomatology was to a large extent removed when Leyden pointed out that we really have here two distinct types of disease. The one, the ordinary progressive muscular atrophy, attacks individuals in the prime of life, and has the usual course above marked out. The other is an hereditary form of muscular atrophy. It begins usually in childhood; the lower extremities, and loins are first affected, the upper extremities not becoming involved until a much later period; it runs a painless course, and there is always present a distinct element of heredity.

It will be observed that in these peculiarities, it is very much like pseudo-hypertrophic paralysis, which also begins in the lower extremities. The only differences are that the latter usually begins at an earlier period, often in infancy, and that the intensity of the disease is generally greater.

The apparent enlargement of the muscles of legs, through the deposit of fat, is a less important factor. This is an incidental feature, not directly due to the disease in the cord, and is also found more or less in this form of muscular atrophy. It occasionally occurs in the ordinary progessive muscular atrophy of adults, indeed appears to a slight extent to be present in this case, as the apparent size of some of the muscles, especially the calves of the legs, is greater than would be expected from their great loss of power.

The hereditary element is found alike in the hereditary form of muscular atrophy and in pseudo-hypertrophic paralysis. Very often many children of the some family are affected. The disease is not usually found in the parents. As in the case of bleeders, it is usually transmitted through the mother to the male children.

The speaker passed around three genealogical tables one of which showed the disease running through seven generations.

There might be doubt as to which of the two forms of muscular atrophy this case belonged. Here the disease began in the lower extremities, its whole course being of the hereditary type. But the disease began when she was twenty-six years old, which is rare in the latter form. The patient further states that her brothers and sisters and parents are all living and quite well, and that there has been to her knowedge no similar disease in her family.

So the disease must be classed with the ordinary progressive muscular atrophies but having an unusual course. Möbius states that if the disease begins in the lower extremities we know that it belongs to the hereditary form. This instance illustrates how difficult it is from mere clinical observations to formulate any law which will be of universal applicability.

There are other instances where muscular atrophy follows disease of the grey matter of the cord, as after diseases of joints, in lead paralysis, in transverse myelitis, or the so-called deuteropathic muscular atrophies, where the gray matter becomes secondarily involved, as in some instances of hemiplegia, locomotor ataxia, etc., but to none of these does this case belong.

Another symptom, on account of its practical bearing, was spoken of. The patellar tendon reflex was missing. The speaker had been asked by a physician a short time ago whether he considered the absence of the patellar tendon reflex pathognomonic of locomotor ataxia. He answered that he considered it almost as pathognomonic as any sign was of any disease. An instance of this kind could scarcely be considered to controvert that statement. The knee jerk is due to the contraction of the quadriceps femoris. There could be no such contraction here as the muscle was practically absent.

DISCUSSION.

Dr. Thrasher said that this case, like so many others demonstrated that we have no typical form of disease.. Here we have the trouble manifesting itself in the female sex, and the muscles are not involved in the usual order. Usually pain and muscular twitchings are prominent symptoms. These are absent in the case reported. The speaker thinks that Dr. Zenner may be mistaken when he states positively that the disease is of nervous origin. Quite a number cf prominent men assert that it originates in the interstitial tissue of the muscles, exciting an ascending neuritis, and secondarily affecting the cord. Certainly this is difficult to prove, and even with the most careful examination, Friedrich was unable to find any change in the majority of cases. The disease has been divided into the idiopathic and hereditary varieties. An hereditary element could possibly be claimed when the disease manifests itself in early life, when it generally assumes the form of infantile paralysis or pseudo-hypertrophic paralysis. An extraordinary case of progressive muscular atrophy has been on exhibition for some time at one of the museums of the city. The patient's mental faculties are not in the least impaired, and yet he is, so to speak, nothing but skin and bones.

Dr. Zenner said that when we have two such distinct types as the ordinary and the hereditary forms of this disease, one occurring in the adult, the other in the youth, one in the upper extremity and the other in the lower, it is worth while to separate our cases. Since Friedrich's death very few prominent men hold his opinion. We are led to conclusions by observing the general distribution of the disease, which we can more readily explain by assigning it to a central origin. We have also positive data, for in many cases we have found on examination exactly what we expected. We must also suppose that the change in the cord is very slight. The general opinion is that all these affections have a central oiigin.

Ocular Therapeutics.

Dr. Seely made the following remarks: The study of the nature and treatment of conjunctival affections both from a general and special standpoint is the most important in this department, first because so little is understood as to their nature, and second because of their frequency and disastrous effects. The symptomatology is so well understood that it needs no remarks here. The etiology may be discussed under two general heads, according as the source is known or unknown. Under the former may be classed such forms as are known to arise from a special contagium, for example, the blenorrhagic: under the latter such as the catarrhal, trachomatous, phlyctenular and diphtheritic. The blenorrhagic, traced to a definite source of contagion, would seem to relegate the study of the special elements of this contagium to the field of general medicine and surgery. The are undoubtedly two views of its nature, the old view that it is some mysterious virus beyond the reach of science; the other that it is mycotic—due to a special micrococcus.

Oculists have hertofore looked (and do so largely yet) merely at the phenomena, when the poison has by some means been brought into contact with the conjunctiva, and more recently have endeavored to set aside these phenomena. We have found manifested in therapeutical measures, if not in words, that the mycotic theory has taken feeble root.

In the case of those forms in which the source of the contagium is unknown, the same may be said as has been said in regard to the blenorrhagic.

It is a notorious fact that even to-day the entire subject of inflammation is known only as a conglomerate of symptoms, their cause being enveloped in mystery.

Practically considered, it seems to be a sort of entity to be lopped off or strangled. It is not my purpose to discuss the subject of inflammation now.

At a former meeting I stated that I would next give what I regard as an explanation of the beneficial action of atropine and the mydriatics in general in conjunctival and corneal affections. It has been truly said that over-scrutinizing incomplete evidence does not make it more complete, and while I am far from making the preposterous claim of being able to offset by my own experience the accumulated experience of the profession for two decades, yet I shall at least inferentially call in question the truth of that experience.

So far as the books go, the explanation of the soothing influence of atropia is that it perhaps lowers the intr-ocular tenson,' but chiefly by its action on the nerve filaments. As regards its effect on the intra-ocular tension I have already expressed myself in my previous paper. As regards the soothing effect, I am satisfied by many years' experience that it is not due to action on the terminal nerves, for in that case its action would be more constant. We all know that rest is a most valuable remedy for pain, and disturbance one of its greatest promoters.

This fact has always been recognized and eyes have been bandaged for all time and, for that matter, continue to be, *in order to put them at rest*, but this method, more frequently than otherwise, causes irritation and fails of its purpose. So striking has this fact been in my experience that I never advise a bandage unless a very weakened part is to be supported or the cut edges of a wound are to be held in apposition. The true rest for the eye is *paralysis of the muscle of accommodation*, and, as we all know, when it is to be continued any time, the great paralysant is *atropine*. By paralyzing the ciliary muscle we quiet the eye and this quiet reacts on the blood-vessels.

That such is the case, I am persuaded from the fact that the greater the *ametropia* the more marked is the beneficial action of the paralysant.

Everyone who treats diseases of the eye knows that "strain" on the eye, due to ametropia, will set up and perpetuate congestions and even inflammations of the margin of the lids, the conjunctiva and cornea, and it is likewise just as well known that relief of the strain by neutralizing the ametropia is followed by disappearance of the congestion or even the inflammation. Who has not found an obstinate trachomatous case begin to improve immediately on correcting refractive errors or a blepharitis disappear? Who thinks of treating by local applications a congested conjunctiva or a mild blepharitis, when there is fatigue of the eyes and he is to give correcting glasses?

Such facts are the daily experience of every man if he has the beam out of his own eye. So I believe that whenever and wherever a mydriatic acts kindly in conjunctival or corneal diseases it does so by virtue of its power to put the eye at rest. When we make a practical application of the above there are serious disadvantages in this process of putting the eye at rest. In the first place the remedy is often irritating, its effects are always to dilate blood-vessels, and, as I have said before, to increase intra-ocular tension.

Overfilling ocular tissues produces precisely similar sensations as overfilling those in any other part, and the proper relief would seem to be, foremost and chiefly, the prevention of further supply, and as a result the amazing rapid disappearance of that already accumulated.

Possibly and probably in the ocular region, where the conditions are peculiarly favorable, we may offer some such explanation of the striking action of myotics (chiefly, of course, eserine), so readily demonstrable clinically.

DISCUSSION.

Dr. Conner said that the correct method of treating inflammation of the eye, as demonstrated by the author of the paper, is also correct when the inflammation occurs in other parts of the body. This is a subject which demands still further study. Inflammation is nothing but perverted nutrition, the same processes taking place as in normal tissues. If the influx of blood be cut off from a part, which is in the ordinary state of inflammation, the symptoms subside and the pain is relieved. We know how rest acts. It is physiological rest that is demanded. In any portion of the body the pain is lessened as the amount of blood supply of the affected part is diminished. The pain is in no small degree due to a pressure upon the nerves by the enlarged blood-vessels and by the tissues swollen with effusion. Hence Dr. Seely's reasoning is logical. By restoring the blood-current more nearly to its normal state, the nutrition grows more normal. In many instances it is an exceedingly valuable procedure to directly and immediately cut off the supply of blood, as in inflammation of the knee-joint, and the symptoms can be controlled by compression or ligature of the femoral. Compression or ligation cannot be so readily applied to the vessels that supply the eye, but if by means of a drug we can lessen the calibre of the vessels, we accomplish the same object. Speaker can certainly understand the wisdom of the method explained by Dr. Seely. Rest, in regard to position, is often beneficial, yet physiological rest is often more important in obtaining the desired results.

Dr. Tangeman, referring to the application of mydriatics or myotics to secure relief from pain, said that the condition of absolute rest accomplishes more than the lessening of the influx of blood. In the experiments performed, it is found that the effect of the remedy passes away sooner than the good or therapeutic effect. Hence, the benefit obtained may be attributed to the fact that the patient is forcibly restrained from using his eye. The employment of astringents is entirely out of question, if we compare their action with that of the remedies mentioned above. They would only be of value if we could obtain their good effects without the secondary bad effects, viz.: those of irritation.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.

Thursday Evening, May 23, 1884.

The President, Dr. Tyson, in the Chair.

A case of Paget's disease.—Presented by Dr. W. G. McConnell for Dr. Jos. Hearn.

This breast was removed at the Jefferson College clinic Saturday, May 17, 1884, by Dr. Hearn. History.—Mrs. Baker, æt. 39, married 19 years, has borne 4 children and had one miscarriage. No other of her family has ever had any kind of tumor. Four years ago, following a pustular eruption on the abdomen, she noticed a lump in the left breast which was the seat of lancinating pain of an intermittent character. Previous to the discovery of the lump an eruption of an eczematous nature was noticed, which had existed there for seven months previous to the aforesaid lump. The nipple at the time of the operation was greatly retracted, for a considerable portion had undergone degeneration and cicatrization. There was no enlargment of the axillary glands, but a gland at the upper and inner quadrant of the breast was involved. On section of the tumor after its removal several small, hard, fibroid nodules were encountered. On microscopic examination I found them to be the seat of scirrhus carcinoma. The gland revealed a similar condition.

Colloid Carcinoma.

This tumor was removed by Dr. Hearn at the Jefferson Hospital one week previous to the removal of the other breast. History.—Miss Catherine Brooks, æt. 67, general health good, family history of phthisis, no other of the family ever had any form of tumor. About three years ago she felt a lancinating pain in the right breast. On examination she found a hard roundish lump about the size of a walnut. It continued to increase, and at the end of eighteen months it was the size of an egg. She applied to a quack who applied a salve which she says caused some bleeding, two months before her admission to the hospital. She states that the breast began to "gather" and one week previous to the operation it broke and a dark greenish fluid escaped, which afterwards was followed by the extrusion of a mass of greenish slough. The growth adhered to the overlying skin, but not to the pectoral tissues beneath. The cutaneous veins were enlarged and prominent. The glands were not involved. On section the tumor was found to be dense and hard and containing small cavities filled with a gelatinous, glairy, semi-fluid matter. Microscopic examination showed alveoli filled with epithelium that had undergone fatty degeneration, not a few of them showing the laminated appearance peculiar to colloid. The connective tissue of the stroma was in a state of active proliferation, due probably to the inflammation resulting from the cystic change already mentioned.

Sarcoma of the Testicle, presented by Dr. G. de Schweinitz.

This growth was removed from S. H., æt. 37, married, a patient of Dr. John Ashhurst in the surgical ward of the University Hospital. His father and mother are living and in good health. His grandparents died in old age, having lived healthy lives. Of his two brothers and two sisters all are living, and three of them have thus far been in good health. One sister had a growth removed from the orbit, probably a sarcoma, which is now beginning to recur. His own health has been good. He denies having had any venereal disease. Two and a half years ago he began to notice a globular swelling at the bottom of the left testicle, which gradually increased in size until eight months ago, since which time the growth has been so rapid that at the time of operation the circumference of the testicle measured fourteen and a half inches. Pain has been insignificant until last April, since which time he has suffered with severe dragging pains. The inguinal glands on both sides were slightly enlarged. The growth occupies the body of the testicle, being surrounded by the tunica albuginea and the tunica vaginalis, which are intact. It is a large, somewhat irregular, moderately soft, blood stained mass. In one end there is an area of cystic degeneration. Microscopic examination shows this tumor to be a sarcoma of the round celled variety, the cells being moderately large, containing oval nuclei, and sometimes nucleoli. In places a faint reticular net-work is distinguishable, producing a picture similar to the "lymph-gland-like" round celled sarcomas.

MEMBERS BY APPLICATION.—At the last meeting of the National Association action was taken for amending the constitution in such manner as to provide for the admission of members by application, in addition to the previous methods, as may be seen by reference to the minutes as given on page 573 of the present volume of the *Journal of the American Medical Association* (No. 21, May 24, 1884). Under the new provision any member of a State, County or local society, recognized by representation in the American Medical Association, who is himself in good standing in the local society to which he belongs, may become a member of the National Association, by making application in writing, and accompanying such application by a certificate of his good standing, signed by the President and Secretary of the Society to which he belongs, and the payment of five dollars membership fee. The amendment adopted does not specify the officer of the Association to whom the written application, certificate of good standing and fee, should be sent. But as the Treasurer is the proper officer to receive all membership dues, and to keep a record of all who retain their membership by continuing to pay the annual fee of five dollars, it would be better if all papers and money relating to applications for membership in the manner specified above, should be sent directly to the Treasurer, Dr. Richard J. Dunglison, Lock Box 1274, Philadelphia, Pa. Members by application will hold the same rank as other permanent members. They will be entitled to receive the *Journal* of the Association, attend the annual meetings, and retain their membership so long as they continue to pay the annual dues and comply with the regulations and requirements of the Association, but without the right to vote; the latter being reserved for delegates only. —*Journal of American Med. Association.*

THE CINCINNATI
LANCET AND CLINIC
A Weekly Journal of
MEDICINE AND SURGERY
ISSUED EVERY SATURDAY.

TERMS, $3.50 PER ANNUM IN ADVANCE.

☞All letters and communications should be addressed to, and all checks, drafts, and money orders made payable to
DR. J. C. CULBERTSON,
EDITOR AND PUBLISHER,
281 W. 7th STREET, CINCINNATI, OHIO.

SUBSCRIBERS TO THE LANCET AND CLINIC who have not already remitted their subscription will confer a favor on the publisher by promptly doing so.

Cincinnati, June 7, 1884.

The Week.

THE Ohio State Medical Society meets at Columbus next Tuesday, Wednesday and Thursday.

ACADEMY OF MEDICINE.—Next Monday, June 9th, Dr. J. C. McMechan will read a paper on "The Use of Balsam Copaiba in Chronic Cystitis."

THE ILLINOIS MEDICAL PRACTICE ACT. Recent decisions in two cases, one under the "Act to Regulate the Practice of Medicine in Illinois," the other under the "Dental Surgery Act," sustain the right of the State Board of Health to determine the status both of a college and a practitioner. Under the latter act the Supreme Court refused the petition of Isaac N. Sheppard for a writ of mandamus to compel the State Board of Dental Examiners to issue him a certificate or license based upon a diploma of the Indiana Dental College. The Board refused the license on the ground that the College was not a "reputable" institution. It was argued that the law constitutes the Board, judges of the standing of a college, and there is no power of review vested in any other body.

"If the Board should arbitrarily or unreasonably abuse their discretion, and refuse a license without any reason therefore, there is a remedy for such abuse of discretionary power." But there was no ground for claiming that this was the case in the present instance.

The Board in its judgment had decided that the curriculum of study and requirements for graduation of the Indiana Dental College were not such as to entitle it to be classed as "a reputable dental college"; and there is no power in the law, given to any person or body to review and set aside, or confirm, the exercise of this discretion by the Board. The petition for a mandamus was denied.

In the case of the State Board of Health against C. Buel Rice, of Cincinnati, a graduate of the Medical College of Fort Wayne, tried in the Sangamon County Court, the defense set up the plea that, being a graduate of a "legally chartered medical institution in good standing," the defendant was entitled to the certificate of the Board; and that it was not competent for the Board to inquire into the moral or professional character of such graduates. On the part of the prosecution it was shown that charges had been presented to the Board, alleging that Rice was in the employ of, and associated with, the "K. & K. Surgeons," a firm of advertising quacks from Cincinnati and elsewhere, and that, in various ways connected therewith, his conduct was unprofessional and dishonorable, within the meaning and intent of the Medical Practice Act. Upon these charges the Board had refused to issue Rice a certificate until he had disproved the same. Instead of making any attempt at such disproof, Rice continued to practice; whereupon he was arrested for practicing without the necessary certificate. The facts were admitted by the defense, but, as already stated, the Court was asked to dismiss the suit on the ground that it was obligatory on the Board to issue its certificate to the possessor of a genuine diploma of any "legally chartered medical institution in good standing," regardless of the moral or professional status of the individual. This the Court declined to do, but found the defendant guilty, and assessed a penalty of $50 fine and costs.

Selections.

MEDICINE.

Hay-Fever, A Lecture Delivered at the London Hospital Medical College. By Morell Mackenzie, M.D.Lond., and published in *The British Medical Journal.*

[In a few introductory remarks, the lecturer stated that his course was partly systematic and partly demonstrative. The former portion consisted of a brief review of the diseases affecting the pharynx, œsophagus, larynx and trachea, and nose and naso-pharynx. Each of these subjects occupied one session, so that a period of four years was required for the completion of the series. At the conclusion of each lecture, selected cases were brought forward and demonstrations made on them, full opportunity being also afforded to the members of the class for examining the patients themselves. Dr. Mackenzie then announced that during the present session he would lecture on diseases of the nose and naso-pharyngeal region, and that his first subject would be hay-fever.]

Hay-fever is a complaint which, though not dangerous to life, causes at certain times suffering of so intense a character as to prevent some people from following their ordinary avocations, and render a still larger number, who are not actually disabled, thoroughly miserable during the most agreeable season of the year.

The affection has received various names, such as hay-asthma, pollen-catarrh, summer-catarrh, and rose-catarrh, according as the most prominent symptoms, or the supposed cause in a particular case, has been made the basis of nomenclature, and I have thought it convenient to make use of the one most commonly employed in this country.

This disease may be defined to be a peculiar affection of the mucous membrane of the nose, eyes, and air-passages, giving rise to catarrh and asthma, almost invariably caused by the action of the pollen of grasses and flowers, and therefore prevalent only when these are in blossom.

This history of the affection is interesting in many respects, and appears to show either that the complaint, like influenza and cholera, did not occur in Europe in the "good old times," or that the disease was entirely overlooked till a comparatively recent period. The circumstance, already referred to, that the ailment does not actually kill, and the fact that in its different forms hay-fever resembles some other complaint, tend to support the theory that the older physicians may not have observed this transitory affection; but, on the other hand, the fact that it has certainly become more common in the last few years points to the probability that irritating properties have been newly acquired by certain vegetable bodies, and that a peculiar idiosyncrasy has been developed.

The first detailed account of hay-fever was given by Bostock, who, in 1819, described a "periodical affection of the eyes and chest," from which he was himself a sufferer. In 1828 this physician published some further observations of the complaint under the name of "summer catarrh. A short paper on hay-asthma, by Gordon, appeared in 1829, and in 1831 Elliotson gave a brief description of the complaint. A few years later, the same physician discussed the subject more fully, aud with characteristic sagacity pointed to pollen as the probable cause of . the affection. A systematic inquiry into all the circumstances of the disease was made in 1862 by Phœbus, of Giessen, whose own personal observation was, however, confined to a single case. Unlike most of the other writers upon the subject, moreover, he did not himself suffer from the complaint. His method consisted of issuing circulars and advertisements inviting medical men all over the world to send him answers to a series of questions so framed as to embrace every possible kind of information about the causes, symptoms, and progress of the disorder; its periods of prevalence, geographical and ethnological distribution; and its prevention and treatment. In this manner, a vast quantity of facts and observations was collected, and from these Phœbus endeavoured to extract a complete theory of the disease. During the ensuing ten years, pamphlets on hay-fever were published by Abbott, Smith, Pirrie, and Moore, dealing with the disorder from various points of view, but all showing more or less a disposition to limit the cause of its development to emanations from plants.

In 1869, a theory of hay-fever was propounded by Helmholtz, himself a sufferer from the complaint. He held that the symptoms were produced by vibrios, which, although existing in the nasal fossæ and sinuses at other times, were excited to activity by summer heat. He professed to have found a ready means of relief, and even of prevention, in the injection of quinine, which Binz had shortly before shown to be poisonous to infusoria. Subsequent experience has not confirmed Helmholtz's conclusions. In the following year, a short practical paper was written by Roberts, in which he claimed to have been the first to observe that excessive coldness of the tip of the nose is "*the* pathognomonic" symptom of hay-fever, and desired to have due credit awarded for this remarkable discovery. In 1872, Morrill Wyman discussed the disease as it prevails in America, and tried to establish that two distinct forms of the complaint exist in that country—one occurring in May and June, and corresponding to English hay-fever, and a later variety peculiar to America, which he called "autumnal catarrh." In 1873, Blackley, of Manchester, produced a work which is a model of scientific investigation. By a most ingenious and carefully conducted series of experiments, he proved that, in his own person at least, the pollen of grasses and flowers was the sole cause of hay-fever; and that, in the case of two other patients, the severity of of the disease bore a direct relation to the amount of pollen in the air. His subsequent observation make it extremely probable, indeed almost certain, that, though transient irritation of the mucous membrane may occasionally be caused by simple dust, pollen is in fact the true *materies morbi* of summer catarrh. In 1876, a short treatise was published by Beard, of New York, in which he dealt with the complaint as it is met with in the United States. His information was collected chiefly by circulars, after the manner of Phœbus; but, more fortunate than that observer, Beard had himself seen and treated many cases. He received replies from over 200 patients, and on these data he came to the conclusion that the immediate exciting causes are more than thirty in number, and that further investigations may extend the number of secondary causes to fifty, or even one hundred. Beard showed clearly from his statistics that a large proportion of the sufferers are of nervous temperament, that nerve-tonics are of considerable value in the treatment of the affection. In 1877, an essay was published by Marsh, in which he completely accepts the pollen theory. The influence of a morbid condition of the nasal mucous membrane in favoring the development of hay-fever has been recently insisted on by Daly, Roe, and Hask."

In accordance with the usual method of dealing with *etiology*, the causes of hay-fever may be conveniently divided into the predisposing and the exciting.

The predisposing cause of the complaint is the possession of a peculiar idiosyncrasy, but on what that idiosyncrasy depends is quite unknown. Whether it is due to some local abnormality affecting the structure of the mucous membrane, the capillaries, or the periphery of the nerves, but too delicate a nature to admit of detection by available methods of research, cannot be determined. The fact, however, remains, that whilst millions of people are exposed to the cause of the affection, very few actually suffer from it. The idiosyncrasy is generally developed suddenly, without apparent reason. Once acquired, however, it is seldom lost, the predisposition, on the contrary, seeming rather to increase with each recurring summer. The circumstances which are supposed to influence this idiosyncrasy are race, temperament, occupation, education, mode of life, sex, heredity, and age. These various points may, with advantage, be considered in detail.

The influence of race is seen in the fact that it is the English and Americans who are almost the only sufferers from the complaint. In the north of Europe—that is, in Norway, Sweden, aud Denmark—it is scarcely ever seen, and it rarely affects the natives of France, Germany, Russia, Italy, or Spain. In Asia and Africa, also, it is only the English who suffer. As far as I have been able to ascertain, the complaint is more common in the south of England than in the north; whilst in the north of Scotland it is very rare. In America, it occurs in nearly every State, though diminishing in frequently towards the south. I think it extremely likely that the disorder will be found in Australia and New Zealand, but I am not aware that any cases have yet been reported from those countries. In support of the view that race has an important influence, it may be mentioned that in New York, where hay-fever is comparatively common at certain seasons, Dr. Jacobi, whose practice lies largely among Germans, has never met with a case of the disease in a person of that nationality, and that Dr. Chaveau, of the same city, has never observed the complaint among his French compatriots residing there. Beard never heard of a case amongst Indians or Negroes, except the instances related by Wyman, in which an Indian child was the subject of the disease.

The nervous temperament has undoubtedly a certain influence in predisposing to hay-fever. This, of course, does not mean that all the patients are highly nervous people; some are of nervo-bilious, other of nervo-sanguineous temperament, but nearly all belong to the active energetic class of so-called nervous organisation.

One of the most singular features of this complaint is, that it is almost exclusively confined to persons of some education, and generally to those of fair social position. In 1879, I had notes of sixty-one cases of hay-fever from my private practice, and had seen many others of which I kept no record, whilst amongst my hospital patients I have not met with a single instance of the disease. Of forty-eight cases which came more or less directly under the notice of Blackley, every one belonged to the educated classes, whilst, out of fifty-five cases reported by Wyman, in forty-nine the patients were educated people. Merriman also states that hay-fever chiefly affects "the upper and middle classes."

The influence of mode of life is shown in the fact that the rustic is much less subject to the affection than the citizen. Thus farmers and agricultural laborers, who of all people are most exposed to the disease, very rarely suffer from it, there having been only seven cases among the two hundred reports collected by Beard. I am not able to say whether the villager owes his exemption to the vigorous health maintained by an out-door life, or whether habitual exposure to the cause of the complaint begets tolerance; but the fact remains, that dwellers in towns are much more prone to the affection than those who live in the country.

Sex has a distinct influence, many more men than women suffering from the disease.

Out of a grand total of 433 cases cited by Phœbus, Wyman, and Beard, only 142, or about a third, were females. Against these statistics, it may be urged that the information on which they are based was collected by circulars, to which, perhaps, women would be less likely to reply than men. This objection, however, does not apply to my own cases, amongst which I met with thirty-eight belonging to the male, and only twenty-three to the female sex.

Heredity has likewise a powerful influence. This has been abundantly proved by Wyman and Beard, and is supported by my own observations. In Wyman's experience there was heredity in twenty per cent., and, in Beard's, in thirty-three per cent. Out of my sixty-one cases, in twenty-seven one or more near relatives had suffered in the previous generation. I have also several times treated a father and his children at the same time.

Age, to some extent, governs the disorder, which, in the great majority of cases, appears before forty; but several instances have been reported of the first occurrence of the malady in patients as old as sixty. It is somewhat rare for this affection to show itself in very young children, but I have seen it in one patient at two years of age, and in another at three. In these cases, as in all those of very young patients that have come under my notice, the little sufferers were the children of parents who had themselves been victims to the complaint. Had not the parents been subject to the affection, it is most likely that the true import of the symptoms would have been attributed to a common cold; and from this it may be inferred that, when the complaint attacks the young, it is often overlooked.

A great variety of agencies have been looked upon as the exciting causes of this disease; but there can now be little doubt that pollen is the essential factor in the case of those possessing the peculiar predisposition. Before, however, proceeding to show that pollen is the real cause of the affection, it may be well to pass in review some of the others sources to which its origin has been attributed. The most important of these are heat, light, dust, benzoic acid, coumarin, excess of ozone, and over-exertion, or several of these influences in combination.

Heat.—Popular observation had already associated hay-fever with effluvia from grass or hay, at the time when Bostock, from his own personal experience, put forth the view that the affection is due to the influence of solar heat. The obvious difficulties in the way of this theory led Phœbus to attribute the affection to "the first heat of summer," which, he observed, "is a stronger cause than all the grass-emanations put together." Later on, however, Phœbus remarked that the "first heat of summer only acts in an indirect manner as an exciting cause;" and he admitted that hay and the blossom of rye cause exacerbations. Heat alone will not, however, produce the disease. It is not met with in the plains of India when the heat is greatest, though occasionally it is seen in the cooler months, before the vegetation is burnt up. Hay-fever is also found in the milder climate of the Indian hills, when the grasses and cereals are in blossom. The intense heat of the desert does not produce the disease; nor does it occur at sea in the sultry equatorial regions, though the heat, when vessels are becalmed, is sometimes almost beyond endurance. In America, hay-fever is much more common in autumn than in the tropical summer of that country.

Light.—The observations as regards heat apply equally to light, Phœbus thought that the longer days, which produce a more continuous action of light, are perhaps to blame; but where the light is strongest and lasts longest—indeed, in the land of "the midnight sun"—hay-fever is almost unknown. At sea, when the sun is bright, it is well known that nothing can exceed the the glare; yet a sea-voyage is the best safeguard for the sufferer from hay-fever. Persons with a sensitive mucous membrane, especially those subject to hay-fever, are, no doubt, sometimes liable to attacks of sneezing from sunlight; and incautious observers might mistake these symptoms for true hay-fever. Some of Beard's patients even attributed the affection to gaslight; which is used much more in winter, when hay-fever is absent, than in the English summer and American autumn, when the affection prevails.

Dust.—This is a more difficult subject to to dispose of. Most writers who accept dust as a cause of summer catarrh, speak of "common dusts;" but, as Blackley remarks, there is no such thing as *common* dust. The constitution of dust depends upon the geological character of the soil, upon the vegetation which it supports, and on the season of the year, as well as on "the number and kind of germs and other organic bodies" present in the atmosphere. Beard's statistics, if accepted without consideration, strongly point to dust as the most common cause of hay-fever; for, out of 198 patients, no fewer than 104 attributed the affection to dust. Of these 198 cases, however, 142 occurred between May and September; and it may well be asked, How was it that dust did not affect these patients in the winter months? Does this not clearly point to the presence in the dust of some special irritant during the summer and autumn months, which does not exist at other times? In England, in the months of February, March, and April, when strong east winds often blow clouds of dust against the face, symptoms of hay-fever do not appear; whilst in June and July, when there is comparatively little dust, hay-fever attacks its victims. It is true that in many of Beard's cases, collected by circulars, the patients attributed the affection to "indoor dust," and some even to "cinders;" but, as people stay in the house more in winter than in the autumn and summer, and use fires at the time, these agencies, if of any real power, would produce their greatest effect in winter. Directly the opposite, however, occurs. Is it not highly probable, therefore, that these patients were misled as to the real cause of their malady? We all know how easy it is for the trained physician to make erroneous observations and to overlook important physical signs, and how much more likely is the untutored patient to make a mistake in the obscure and highly complicated problems of etiology!

Ozone Benzoic Acid, etc.—An excess of oxone in the atmosphere was suggested by Phœbus as a possible cause of hay-fever, but Blackley purposely breathed air highly charged with this substance for five or six hours without effect. He, moreover, inhaled artificially prepared ozone, in quantities far exceeding what is ever found in the same volume of atmospheric air, without feeling any inconvenience. The same physician also studied the effects on his own person of benzoic acid, coumarin (the odorous principle of many flowering grasses), and of the volatile oils which impart to many plants, such as peppermint, juniper, rosemary, and lavender, their characteristic perfume. The results were in all these entirely negative.

Over-exertion, or prolonged exercise, in the open air, never has any effect in cold weather, or indeed at any other time except when grass is in flower. Its influence, however, in aggravating hay-fever, in the hay season, is very great, and will presently be considered.

Combined causes of hay-fever.—Several writers have contended that, although any one of the above causes may not alone be sufficient to produce hay-fever, several of them acting together may be able to do so. Such theories are the last resource of those who are unable to discover the true etiology, and there is not a tittle of evidence in their support.

It having been shown what does *not* generate hay-fever, its real mode of origin must now be demonstrated.

Blackley's observations leave no doubt that the cause of hay-fever is the action of pollen on the mucous membrane. His experiments were framed on a most campre-hensive plan, and carried out in a rigorously scientific spirit. By well devised tests, he succeeded in proving; first, that in his own person the inhalation of pollen always produced the characteristic symptoms of hay-fever; secondly, that in his own case, and in that of two other persons, there was a direct relation between the intensity of the symptoms and the amount of pollen floating in the air; and, thirdly, as already shown, that none of the other agents referred to, such as heat, light, dust, odors, or ozone, can of themselves cause the complaint.

Blackley's experiments made with pollen of various grasses and cereals, and with that of plants belonging to thirty-five other natural orders.

The grasses which, as already stated, were at one time considered to be especially active are the *anthoxanthum odoratum* and the *holcus odoratus*; but this idea, no doubt, originated in the extremely fragrant odor of these plants, and there is no reason to suppose that their pollen is more active than that of the *alopecurus pratensis*, and the various *poæ* and *lolia*. The pollen of rye is, however, more potent than some of these; and that of wheat, oats, and barley is also very active. The careful observations of Alackley show that, in England, during the season of hay-fever, 95 per cent. of the pollen contained in the atmosphere belongs to the *graminaceæ*. This oder generally comes into full blossom between the end of

May and the latter part of July, and that is precisely the period of the year when hay-fever prevails. If the season be wet and cold, the disease usually sets in rather later, and is milder in character than when the weather is fine, and the vegetation luxuriant.

There are persons in whom the presence of roses will given rise to an attack, and in America the affection is sometimes called "rose-fever." No doubt it is the pollen of the rose which is the active agent. The celebrated Broussais appears to have been impeded in his botanical studies by this idiosyncrasy, whilst the case related by Hünerswolff of a man in whom the perfume of roses invariably produced an attack of coryza, has been often cited by modern writers. I have myself met with a similar instance. A lady living in Devonshire consulted me in 1864, on account of constant severe coryza, which came on whenever she smelt a rose. All treatment proved futile, and she was ultimately obliged to banish these flowers from her garden.

In America the pollen of the Roman wormwood (*ambrosia artemisiæfolia*) appears to be most common cause of hay-fever. This plant (which belongs to the genus *ambrosiacea*, nat. ord. *Compositæ*) is not met with in Europe, but is extremely common in nearly every part of the United States. Wyman found that when a parcel containing this plant was opened at White Mountain Glen, where he had retired in order to avoid hay-fever, he and his son were immediately attacked with all the symptoms of the malady. The plant blossoms in August and and September, and it is then that hay-fever most prevails in America. Several varieties of the *artemisia*, a closely allied genus, are met with in England, and I think it not improbable that some cases of hay-fever which have occurred at the seaside in this country may have been due to the pollen of the *artemisia maritima*, or its variety, *artemisia gallica*. It is curious that, except in the cases of Indian corn, the pollen of grasses appears to have but slight effect in America, though a mild form of hay-fever is met with in that country from May to August.

There are certain supposed fallacies in the pollen theory which must be mentioned. Thus a case is mentioned by Walshe, in which the patient retained the symptoms of hay-fever during a passage across the Atlantic, another has been reported by Abbott Smith, in which the disease came on at a distance of nine miles from land. These are, I believe, the only authentic instances in which hay-fever has continued to exist, or has originated, at sea, and they are open to various explanations. It has been distinctly shown Blackley that pollen may be retained in an articles of dress for many weeks; and in Smith's case, the patient, who was yachting, experienced the symptoms after assisting "to hoist the sails." The attack came on the 13th of June, and it is not unlikely that when the sails were unfurled a large quantity of pollen collected in their folds was set free. In Walshe's case, the symptoms may have been kept up by some other irritant to which the patient may have had a peculiar susceptibility, or the case may not have been a true example of hay-fever, but of ordinary asthma, complicated with catarrh. It is not altogether impossible, however, that pollen may be deposited on a ship miles away from land. Darwin has shown that dust is sometimes carried by the wind far out over the Atlantic. "The dust," he observes, "falls in such quantity as to dirty everything on board, and to hurt people's eyes; vessels have even run on shore, owing to the obscurity of the atmosphere." Again, in speaking of the distribution of pollen, Darwin reminds us that the ground near St. Louis, in Missouri, has has been seen covered with pollen as if it had been sprinkled with sulphur, and there is good reason to believe that this has been transported from the pine-forests at least 400 miles to the south. A shower of yellow pollen was wafted to Philadelphia from some distant pine-forest so recently as March 16th, 1883. It caused such a thick deposit as to lead ignorant people to take it for brimstone. These facts are sufficient to show that the influence of pollen may be experienced under circumstances where it would not generally be looked for.

Whilst asserting that pollen is the universal cause of the peculiar form of catarrh known as hay-fever, I do not mean to deny that other irritating particles might produce a similar complaint if persistently brought into contact with the mucous membrane. Thus, it is well known that powdered ipecacuanha will in some persons cause a peculiar form of asthma closely resembling hay-asthma, and with many people the fumes of burning sulphur have the same effect. I have frequently observed slight attacks resembling hay-fever produced by the insufflation into the larynx of powdered lycopodium; and, indeed, I have for this reason been compelled to give up the use of this drug as a diluent for medicinal powders. Some people experience symptoms somewhat analogous to those of hay-fever from smelling certain fruits, whilst others are troubled in the same way by the presence of cats, rabbits, and guinea-pigs; and Bastian suffered an affection closely resembling hay-fever whilst dissecting the *ascaris megalocephala*, a parasite which infests the horse. If the specific exciting influence be kept in operation on a person subject to an idiosyncrasy of this kind, a complaint almost precisely similar to hay-fever is produced; but, a complaint almost as a rule, the conditions leading to its manifestation are exactly known by the patient, and can therefore be avoided. The etiological peculiarity of hay-fever consists partly in the fact that the idiosyncrasy as regards pollen is more common than other individual susceptibilities, but chiefly in the circumstance that at certain seasons pollen excercises its influence over wide areas, and can be excluded only with great difficulty.

In a recently published article, Daly, of Pittsburgh, has endeavoured to show that, in a large proportion of cases, there is an intimate relation between hay-asthma and chronic nasal catarrh, and that, except when disease of the nasal mucous membrane exists the alleged exciting cause of summer catarrh is inoperative. He reports two cases of thickening of the turbinated bones, and one of polypus, in which, after the cure of the local condition, the patients lost their susceptibility to hay-fever. These persons had suffered from summer catarrh for twenty-one, fifteen, and six years respectively. Roe and Hack have since enunciated views similar to those propounded by Daly. It is not at all unlikely that an unhealthy state of the mucous membrane of the nasal fossæ may predispose to hay-fever; but I may remark that I have repeatedly examined the interior of the nose in cases of hay-fever without finding anything other than general congestion.

The *symptoms* of the disease are seen under two well marked types, the catarrhal and the asthmatic. In the former, the onset is very sudden, the patient becoming conscious of an itching smarting sensation in the nose and eyes, and sometimes in the fauces and roof of the mouth. Not unfrequently, the attack commences with a feeling of extreme irritation at the inner canthi. Paroxysms of sneezing, often of extreme violence, quickly ensue, followed by an abundant thin discharge from the nose. The mucous membrane of the nasal fossæ swells so as to block up the passages and makes respiration through them impossible. At the same time, there is profuse lacrymation, with much pricking and stinging of the conjunctival surfaces, and sometimes photophobia. There is often a certain amount of chemosis, and occasionally the eyelids become pulled so as almost to close the eyes. The discharge from both nose and eyes gradually grows thicker, sometimes even becoming semi-purulent in character. There may be severe neuralgic pain in the eyeballs and over the back of the head. Now and then there is some degree of pyrexia, but this is by no means the rule. The disorder often varies considerably in intensity, even in the same person, within short intervals of time, so as almost to give an intermittent character to the complaint. This is probably due to the varying quantity of pollen present in the atmosphere, the severity of the disease being, as a rule, in direct proportion to the abundance of the *materies morbi*. An attack lasts from a few hours to several days, or even longer, finally ceasing almost as suddenly as it set in, and leaving little or no trace of its presence either in local lesion or systemic disturbance. In some patients, hay-fever is accompanied by nettle-rash.

The asthmatic form of the complaint may be superperadded to the disorder just described, or it may constitute the entire affection. It generally comes on in the day-time, and the paroxysm may pass off in a few hours, the patient at first expectorating a little ropy mucous, and, later, an abundant frothy secretion, or the dyspnœa may continue with only a slight remission, as long as the sufferer is exposed to the influence of pollen. The attacks seldom produce any emphysema, and the patient sooner or later entirely recovers.

The *diagnosis* of hay-fever from common catarrh on the one hand, and spasmodic asthma on the other, is not always easy, and mistakes in diagnosis were formerly very common; but the disease is now so much better known that errors are less likely to occur. This first attack might, perhaps, be confounded with ordinary coryza; but the suddenness of the onset, the characteristic œdematous puffiness of the eyelids, together with the absence of constitutional symptoms, will speedily lead to a truer diagnosis. People who are prone to catarrh are very apt to catch cold in the changeable weather of the spring and early summer of this country, and these cases are sometimes mistaken for hay-fever; but the readiness with which they yield to anticatarrhal treatment at once shows their real nature.

The asthmatic form of hay-fever may, in some instances, be less easy to recognize; but the history of the case will generally guide the practitioner to a correct opinion. The fact that hay-fever comes on, as a rule, in the daytime, out ot doors, and in the summer, whilst, on the other hand, paroxysms of true asthma most frequently occur in the evening or night, indoors, and in one of the other seasons of the year, may help to distinguish the two complaints.

The *prognosis* is in all cases favorable as regards the termination of each attack; *cessante causa, cessat affectus.* When the season of flowering grass is past, the complaint will certainly depart; but it will almost as surely reappear whenever the patient is again exposed to the action of pollen.

Hay-fever leaves no permanent structural lesion behind it, and cannot, therefore, be said to have any pathology. Blackley thinks that pollen has a peculiar and specific effect in causing dilatation of the capillaries and exudation of serum from them; but it appears to me highly doubtful whether this is anything more than the reaction which ordinarily follows the application of an irritant.

It need scarcely be said that zealous "bacterio-maniacs" have, of course, sought for parasitic germs in the nasal secretions of those subject to hay-fever; but although bodies resembling pollen-corpuscles have been found, no specific organisms have, so far as I am aware, been detected. It is almost a comfort in these days to find one disease for which the ubiquitous bacillus does not appear to be responsible.

The *treatment* of hay-fever is by no means satisfactory, and in no disease is the old adage, that "prevention is better than cure," more truly applicable than in the case of this complaint. If the poison be continually introduced into the system, the antidote, if one exist, can have but little chance of effecting a cure. The first measure, therefore, must be to a remove the patient from a distict in which there is much flowering grass. A sea-voyage is probably the most perfectly satisfactory step that can be taken. Patients who are unable to go to sea should endeavor to reside on the coast, where they will generally be free from their troublesome complaint, except when land-breezes blow. Dwellers in towns should avoid the country, and those who reside in the country should make a temporary stay in the centre of a large town. It often happens, however, that such a change of abode is not practicable; and, under such circumstances, if the complaint be very severe, the patient should, if possible, remain indoors during the whole of the hay-season. Many persons, of course, cannot keep in the house during the month or six weeks of the hay-fever period; and those who can, are apt to find such detention not only exceedingly irksome, but very injurious to the general health. If, therefore, a patient be obliged to go out ot doors, he should plug his nostrils which cotton-wool or wadding, by means of one of Gottstein's screws, and should defend his eyes by wearing spectacles with large frames, accurately adapted to the circumference of the orbits. Plugging the lacrymal ducts with small glass rods has also been recommended, and Thorowgood speaks favorably of a little apparatus containing a few drops of a camphorated or carbolised solution, which can be comfortably worn in the nostrils. Instead of *plugging* the nose, it has been advised to close it by compression with a little metal clip. As rapid motion in the open air almost always aggravates the complaint, it may be advantageous to wear a veil over the face whilst driving. One made of "three ply" of fine silk gauze has been found very useful. It is recommended that it should be made in the form of a bag open at both ends, one end fitting round the hat, whilst the other has attached to it a heavy wire ring about ten inches in diameter, which lies on the shoulders and keeps the veil off the face. Those who do not mind being occasionally mistaken for the "veiled prophet of Khorassan," will no doubt adopt this plan. Protected in this way, many people predisposed to hay-fever escape altogether, whilst others contract the affection in a very mild form.

As the disease most commonly occurs in persons of nervous temperament, nerve-tonic and other constitutional remedies have been used for the purpose of warding off hay-fever, or controlling the violence of its attacks. Amongst these, quinine, arsenic, opium, and belladonna have been employed; but I have found valerianate of zinc, in combination with assafœtida, more valuable than any other drug. I usually give the remedy in the form of pills containing one grain of valerianate of zinc, and two grains of the compounded assafœtida pill, doubling the dose at the end of ten days or a fortnight. I direct my patients to begin taking these pills as the hay-season approaches; and, under the use of this remedy, many persons who formerly suffered most severely from hay-fever have ceased to be troubled with it.

When the disease is established, tincture of opium is of great benefit in controlling hay-asthma, reducing the secretion, diminishing the sneezing, and at the same time bracing up the nervous system. It should be given in small doses of five or seven drops twice daily, and a saline purgative be taken on alternate mornings. Belladonna has been recommended, but I have had no experience of its use in this complaint.

I trust very little to local measures in the treatment of hay-fever; but when there is profuse secretion, with an excessive tendency to sneeze, the inhalation of strong ammonia salts often gives great relief. I have not found injections of quinine, as recommended by Helmholtz, at all useful. Though in a few cases benefit was derived, in most instances no effect was produced, whilst some patients were actually made worse. The good effect is probably to be explained by the injection mechanically washing away the *corpus delicti* rather than by any parasiticide action. The same remark may apply to the case in which Binz states that a solution of one part of salicylic acid to one thousand of water, thrown into the nares, cut short the disease. The vapor benzoini of the Throat Hospital Pharmacopœia has occasionally produced a soothing effect: and I have also seen good results from insufflations into the nose of a powder consisting of one-sixteenth of a grain of morphia and one grain of bismuth. This should be applied several times a day. Ferrier's snuff may be substituted for the above formula, but it should be applied by insufflation. It is also said that great advantage has been derived from the snuffing of pure salicylic acid, ten or fifteen grains being used in this manner in the course of the day. As, however, this powder is very "strong," I am inclined to believe that most persons would find the remedy worse than the disease.

In a few cases I have known some benefit result from the use of medicated bougies, such as the bismuth, and acetate of lead Buginaria of the Throat Hospital Pharmacopœia; but, like quinine-spray, they occasionally aggravatedt he mischief they are meant to cure.

The upper lip and the margins of the nostrils should be smeared over with benzoated zinc-ointment two or three times a day, when those parts are inflamed, or aconite liniment may be used in the same way.

For the relief of the irritation of the eyes, frequently bathing with very cold water is sometimes useful, though Roberts appears to have found more benefit from warm and slightly salt water. Sulphate of copper (two grains to one ounce) or sulphate of zinc (two grains to one ounce) may sometimes do good, but I have found a lotion containing two grains of acetate of lead with two drops of dilute acetic acid in an ounce of water, the most soothing application. Sedative collyria occasionally allay the irritation; for this purpose a small quantity of a solution of acetate of morphia (one to three grains to an ounce) may be dropped into the eyes when they begin to itch.

Asthmatic patients are often relieved by inhaling the fumes of nitrated blotting-paper, the good effect of which is further increased by steeping the paper in a solution of stramonium or datura tatula, belladona, or lobelia. A patent American remedy, consisting of nitrate of potash and powdered herbs, of which stramonium or datura tatula is probably the most important, is sold under the name of "Himrod's Cure." (1) and when this powder is lighted and the fumes inhaled, they sometimes quickly relieve the spasm.

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(1) The original formula of this remedy has recently been published in one of the pharmaceutical journals. It is said to consist of stramonium, lobelia inflata, black tea, and nitre in equal parts. If a little powdered anisseed or fennel be added to this preparation, it certainly produces a compound which in appearance and effect is very similar to that of Himrod's remedy. Careful microscopical examination, made at my request, by those familiar with vegetable structures has, however, failed to detect any tea-leaf in Himrod's preparation, though, of course, it is

In hay-fever, the food should be nutritious and easily digestible. Owing to the depression which the complaint causes, stimulants are sometimes necessary; but they should, if possible, be avoided, or only taken in small quantities. Light claret, hock, and whisky diluted with water, are the least injurious. Tea. and coffee have a special value in the asthmatic forms of the disease, both in relieving the spasm and counteracting the exhaustion which follows it. Thorowgood recommends citrate of caffeine for the same purpose, especially in cases where the heart is weak; he gives it in doses of two to three grains, dissolved in water or in warm coffee.

THE FEVER OF GROWTH.—The *Medical Record*, April 5, 1884, quoting from *Centralb. für Chir.*, January 26, 1884, say:

This affection, first described by Bonilly, in 1880, is characterized by a fever pursuing a specific course, and accompanied by pain and tenderness in the epiphyses of nearly all the long bones, and is followed by a period of very rapid growth of the individual. It may occur at any time bebetween the fifth and twenty-first year. It is occasioned by excessive excercise, as long walks, standing for a considerable time, fatiguing gymnastic exercises, swimming, etc. Bonilly distinguishes three forms of the disease:

1. Acute, with rapid course, the most common.
2. Acute, but more protracted than the first.
3. Chronic or relapsing (*trainante.*)

Fever or tenderness of the bones are common to all these forms. The pain occupies the "juxtapiphysal" zone, and is most commonly located in the lower ends of the femora, though all the long bones are not infrequently affected. The joints are not involved, as a rule, though sometimes serous effusions, more especially in the knees, are met with. The more rapid forms runs its course in from twenty-four to thirty six hours. The second variety may be of several days' duration, and may even be accompanied by typhoid symptoms, but its termination is always by a rapid return of temperature to the normal. The chronic form is characterized by a succession of attacks running along for weeks and months. The prognosis is favorable, though relapses are common. Quinine should be given during the attacks, and in the intervals all fatiguing bodily excercises should be avoided, while attention is directed to a building-up of the general condition. The following cases of growing fever is reported by Dr. Guillier: A child, eleven years old, of rather delicate constitution, was taken suddenly ill with convulsions, high fever, and pain in all the extremities. There was tenderness over the epiphyses of the femur, tibia, and humerus on either side. A slight improvement on the next day was followed by an increase in all symptoms in the evening. Under antipyretic treatment the fever subsided on the third day. After five weeks the child was able to leave the bed, though she was still very weak. During that time the height increased two and one-half inches.

INCONTINENCE OF URINE.—This colored boy of fourteen has had incontinence of urine for most of his life. This is a malady that has to be looked at from several points of view.

First, as to his bodily constitution. There appears to be nothing peculiar in that. He has the neurotic type, it is true, but that would not be sufficient to account for the trouble, although it favors its production.

Many cases are due to a condition which we find here. The bladder acts in this irresponsible way because it is unduly stimulated by the urine. In this case the urine is intensely acid. That is unquestionably a factor in the production of incontinence. The acid urine keeps up a constant irritation of the mucous membrane. Of course, if the sphincter of the bladder acts in a normal manner, there cannot be incontinence, no matter how irritating the urine may be. The office of the sphincter is partly voluntary and partly under the control of the sympathetic system, so that, under normal circumstances, the urine does not flow away when the attention is taken from the bladder. When it is desired to empty the bladder, every person is conscious that the effort is partly voluntary;—the flow of the urine is solicited by relaxing the sphincter. In this case, during

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readily seen when the formula now given has been been used. On the other hand, bearing in mind the fact mentioned in the text, that the drinking of tea often gives great relief to asthmatics, it is not at all improbable that the herb may have some effect, if burnt and inhaled.

sleep, the sphincter relaxes of itself and the urine dribbles away.

We have then two factors, the acid urine and relaxation of the sphincter. There may be still a third condition; namely, an abnormal contractility of the muscular layer of the bladder occurring during the the period of sleep, and the will not being in action, the sphincter is overpowered. If there is this spasmodic contractility of the muscular layer of the bladder, the cause of it is, in all probability, to be found in the condition of the urine. The acid urine continually acting on the mucous membrane keeps up by a reflex effect and causes spasmodic contractions.

To these three factors a fourth might be added. There are but few cases of this fourth variety. Incontinence, or what is called incontinence, sometimes occurs because the person habitually dreams of passing water whenever the bladder is full. He feels the impression of the urine, but the sphincter still maintains its control. It is the brain which is at fault. The subject dreams that he has an inclination to pass water and that he steps aside to some convenient place and empties the bladder. The treatment of such a case is different from that of the others. This patient does not dream of passing water. The condition present in his case are, first, an acid condition of the urine, second, weakness of the sphincter, and third, spasmodic contraction of the muscular layer of the bladder.

In order to overcome the acidity of the urine, I prescribe the persistent use of some alkali, preferably an alkaline salt of potassium. Nothing is better than the bicarbonate in the form of an effervescent draught. We next need to give some remedy which will keep the sphincter in action. The best for this purpose is ergot. I will order a pill containing one-fourth of two grains of aqueous extract of ergot, and with this may be combined advantageously one-fourth of a grain of extract of nux vomica.

A third thing may be done, that is, diminish the contractile power of the muscular layer of the bladder, and the best remedy to accomplish this is a bromide. This will be given in a single dose at bed-time to lessen spasmodic action. A bromide is particularly indicated in those cases in which the patient dreams of passing water.

If the patient were anemic we could not do better than prescribe the iodide of iron, which, under such circumstances, is of decided benefit.

Notwithstanding the fact that this case has lasted a long time, I venture to say that, under the use of the remedies suggested, a marked improvement will be noted.—ROBERTS BARTHOLOW in *Archives of Pediatrics*.

LEHMANN ON THE INFLUENCE OF COMPRESSED OXYGEN ON VITAL PROCESSES.—In experiments on the influence of compressed oxygen on the vital processes of cold-blooded animals and some occurrences connected with oxidation, Dr. Karl B. Lehmann has obtained the following results:

1. While a frog's heart shows pulsations for at least twenty-four, at most forty-eight to fifty-six hours after removal from the body (independently of its being cooled or not), in compressed oxygen (ten to thirteen atmospheres) it comes to a stop in eight to nine hours, at the temperature of the room. Cooling it as much as possible (two per cent. to three per cent. C.) lengthens its life only slightly, *i.e.*, to about twelve hours. Should the heart be removed from the apparatus after twenty-four hours, it regains its excitability after a few minutes. Compressed oxygen thus makes the heart's vitality latent.

2. The behavior of entire uninjured frogs in compressed oxygen (ten to fourteen atmospheres) accords in detail with those which Aubert has described with regard to frogs in pure nitrogen and in highly rarefied air. After a period of normal behavior, paralysis ensues without preceding symptoms. The transition into the conditions of loss of reflex will sometimes, but rarely, be signalised by clonic spasm. M. Bert's assertion that an increased excitability of the spinal cord and constant spasm precede the paralysis is disputed, in so far as it relates to cold-blooded animals; neither do they occur in mice. The cramps specially noted in birds by M. Bert are recognized as modified suffocation spasms, and the idea of a poisonous action asserted by M. Bert is disputed.

3. The lymph-hearts persist long after complete spinal paralysis; they can also be removed from the cord without disturbance of their pulsations, which shows them to be automatic.

4. Rapid decompression after a long com-

pression with oxygen (eight to twelve atmospheres) leads to copious disengagement of gas in the blood and tissues of cold-blooded animals; the mechanical irritation of the spinal cord, owing to the evolvement of gases, gives rise to spasm, and some hæmorrhages in muscles ensue.

5. Oxygen does not act as a poison. Animals die in compressed oxygen from lessened tissue-change, with more or less modified symptoms of suffocation.

6. Phosphorus, placed in oxygen compressed to fourteen atmospheres, shows no trace of light, formation of acid, or ozone. A substance is formed which blackens silver nitrate paper (Phosphordampf.)

7. Phosphorus can freely burn when kindled in ten atmospheres of oxygen.

8. The theory of Thenard and Meissner, that phosphorus becomes covered with a layer of oxide which prevents further oxidation, must be given up. When brought into the air, the phosphorus shines immediately.

9. The acceptance of the notion of a shell of condensed oxygen around the phosphorus will explain the appearance of light after decompression.

10. Compressed oxygen is not in itself a good oxidative medium. For oxidation goes on as quickly, or more quickly, in air, with reduced indigo, sulphate of iron, alkaline pyrogallic solution, and cyanin. On the other hand, oil of turpentine warmed with caustic potash, or cod-liver oil treated in like manner, shines more in compressed oxygen, while light-bearing organisms shine for hours unchanged.

These new results make a series of older theories appear untenable though the study of the behavior of phosphorus in compressed oxygen throws no light on the cause of death of animals cells in the same medium. —*The London Medical Record.*

Medicinal Value of Tasteless Quinine Tannate.—E. C. Field, Ph. C., of Battle Creek, Mich., having made numerous and careful experiments with a view of ascertaining the solubility of the tasteless quinine tannate in the gastric juice and estimating its value in medicine as compared with the sulphate, concludes that the tasteless tannate of quinine as a medicine is nearly or practically inert. Even if a strong digestive juice should dissolve a minimum dose of eight grains, corresponding to two grains of sulphate, the effect of about six grains of tannin would be obtained which might be the last action desired.—*Weekly Drug News.*

Nux Vomica as a Galactagogue.—Dr. Posada Arango speaks very highly of the good effect of nux vomica as a stimulant to the secretion of milk. He gives ten drops of the tincture three times a day, and explains its galactagogue properties by its action on the mammary gland, exciting it to secretion, and by its stimulating action on the stomach facilitating digestion. He recommends strychnia in recent cases of complete suppression of the secretion.—*London Med. Record.*

SURGERY.

Some of the Dangers and Disadvantages of Anæsthesia.—A paper read before the American Surgical Association, April 30, 1884, by David W. Cheever, M.D., and published in the *Boston Medical and Surgical Journal:*

The form of anæsthesia considered in this paper is that produced by sulphuric ether. Unconsciousness of pain in surgical operations is the greatest boon bestowed on man.

What victim of surgery who, under ether, sinks into a calm and dreamless sleep during which his abdomen can be cut open, his bowels taken out, handled, and replaced, his nerves cut, his veins or arteries tied, and his skin sewed up, and who wakes so absolutely oblivious as to ask "Are you not ready to begin?" but concedes with gratitude on realizing the result that this is the greatest discovery ever made for the happiness of mankind? Speed of locomotion, electric transmission of speech, the preservation of the printed thought of all the centuries seem at such a moment small in comparison.

Any one about to suffer the agony of an amputation, who was told that if he would take a considerable risk in breathing ether he should feel nothing, would choose the risk and the oblivion.

But the second great quality of this Letheon is that it is almost free from danger. Deaths from ether are rare. Having used it for twenty-six years I have never seen one. The largest statistics give one death in 23,204 cases.

It would take a long list to exhaust the benefits ether has conferred on surgery.

The domain of justifiable and beneficent surgery has been greatly enlarged by anæsthesia. The patient seeks an operation with but little dread. He is operated on earlier and better. Many conservative operations are now done which could not be thought of before ether. Many examinations and diagnoses can be made with it which could not be made without it. Many simulators and malingerers are detected under its potent spell.

These vast advantages and this wonted safety have masked the disadvantages and obscured the dangers which may arise.

Ether can kill, and there are operations which can be better done without it.

Hitherto all that I have said is trite and axiomatic. It is the object of this communication to point out what is the danger and what the disadvantage in breathing sulphuric ether.

The danger in breathing ether is chiefly from impeded or failing respiration. The heart outlasts the lungs. Suffocation, or coma at the breathing centre, are the causes of death. Temporary paralysis of the palatine muscles causes the stertor or snoring respiration, and the falling back of the *tongue* carries with it the epiglottis, and closes the larynx. When this condition threatens the operator opens the mouth, and perhaps draws forward the tongue. When, however, he sees the tip of the tongue out to the incisor teeth he thinks it safe, but in this he is mistaken. The tongue in this position still blocks the entrance of air on account of the falling of the palate, and it is only when the tongue is forcibly drawn out of the mouth that the air-passage is opened, and suffocation averted. The larynx can also be opened by placing from behind the two thumbs under the angles of the lower and pressing forwards. The muscles of mastication being relaxed the jaw subluxates over the *eminentia articularis* or, rather, on to it, and carries forward the tongue, and with it the epiglottis, and thus opens the larynx, the mouth being already open. ([1])

2. In some persons, and we cannot foresee in whom, the mucous membrane of the throat and air-passages is very sensitive to the irritating fumes of ether. This sensibility first shows itself in croupy respiration, a spasmodic stridor followed by an incessant dry cough. Letting in more air relieves the spasm of the glottis, and the narcotism of more profound etherization soon quiets the tickling cough. In many persons there soon follows a new peril from a great secretion of *frothy mucus.* The mouth, pharynx, and nares bubble with fluid, and soon the same over-secretion pours out in the bronchi, fills the air-passages, and finally approaches a capillary bronchitis. Slow lividity ensues, the arteries spout venous blood, and the patient is on the verge of suffocation, drowned in his own secretions. This is a very tiresome complication. Etherization has to be entirely suspended for a considerable time.

3. Tetanic symptoms are often annoying, and if not relieved by appropriate treatment become dangerous. Obstinate phonation of the fore-arm and wrist, inversion of the thumbs, opisthotonos, boring by boring the head back in the pillow, these are evidences of suffocation, and are relieved by removing the ether, and allowing of a few inspirations of air. Once I saw this condition in a child terminate in a convulsion, which, however, was not fatal. A most dangerous complication is *tetanic setting* of the inspiratory muscles of the chest. No air enters; respiration with the diaphragm fails to fill the lungs, and the patient dies as in true tetanus. I once saw this condition in a middle-aged man. It came on instantly without warning. The mouth and larynx were free, tongue out, the position good. Respiration absolutely ceased, but the pulse continued. Artificial respiration, forcibly, by the Sylvester method, restored the breathing, and the chest again inspired. In this case there was no stridor at the glottis. The operation was continued and completed without ether, and the patient recovered well. This condition must not be confounded with that where the diaphragm is seen laboriously pumping on a collapsed lung, the glottis being closed by the tongue or by spasm.

4. *Simple exhaustion* is another source of danger in anæsthesia. Death may occur from slowly failing respiration, so gradual as not to attract notice. Such a case of threatened death from pure debility occurred to me where a feeble woman in-

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[1] The relaxation of the muscles in complete anæsthesia being similar to that in death the manœuvres to open the larynx were illustrated by the reader on a wet preparation of the head and neck of the cadaver, of which ap ro riate sections had been made by Dr. Thomas Dwight, professor of anatomy in Harvard University.

sisted on an immediate operation for the removal of a cystic tumor of the breast. Sulphuric ether was inhaled quietly, and complete anæsthesia produced, without spasm, frothy secretion, or lividity. The breathing was especially quiet, but both diaghragm and intercostals were working, the mouth open and the tongue out. After several imperfect sighing respirations a deathly pallor spread over the face, ears, and neck, the pupils dilated, the jaw fell, the breathing ceased. The pulse continued beating very feebly. The aspect was that of death. Artificial respiration and stimulation restored life. The tumor was removed without ether, and the patient evinced no consciousness until the sutures were being passed. She made a slow but good recovery. A momentary inattention on the part of the surgeon and assistant would have insured a fatal result. A second case like the above occurred to me in operating for a tumor of the jaw. The fauces were free of blood and mucus; there was no obstruction, but breathing gradually ceased. This patient was restored by artificial respiration, and did well. The latter case was being operated on in a chair, and faintness may have contributed to the result, but the former case was lying in an easy position on her side in bed. In neither case was there evidence of pulmonary or cardiac disease.

5. *Disease of the heart* may cause death during the inhalation of ether. Well marked valvular disease, pericarditis and effusion, or a fatty and feeble heart, may contribute to a fatal result, and yet I have repeatedly etherized patients with valvular disease with safety by using caution, and giving them plenty of time. Sulphuric ether is a stimulant to the circulation, and if given slowly, well mixed with air, and not pushed either to lividity or exhaustion, may be given safely in many cases of heart disease.

A middle-aged man was brought into the hospital with retention and urinary extravasation.. Immediate incisions and perineal section were imperative. He was etherized, and as I was about to cut breathing ceased. The pulse stopped also. Artificial respiration and stimulation revived him. The operation was done without ether. He lived ten days. At the autopsy I found extensive and old valvular disease of the heart.

6. *Apoplexy*, sanguineous or serous, may follow the coma of etherization in the old, or in drunkards. Atheromatous vessels may give way under the great congestion produced by full anæsthesia; and the "wet brain" of alcoholism may succeed the stupor of ether.

Having reviewed the dangers, we now pass to the disadvantages of anæsthesia.

Does etherization diminish shock?

Primary shock it does lessen. It removes apprehension, and it annuls pain. But it does not remove the secondary shock which follows an operation. Etherization is primarily stimulating, and acts like alcohol in enforcing the heart and filling the pulse.

Secondarily, or long continued, it is exhausting. Long etherization prostrates the patient. A frequent pulse, lowered temperature, drenching sweats, and nausea are the sequences of an anæsthesia which lasts more than from half an hour to one hour.

7. One of the marked *disadvantages* of anæsthesia is that it decoys the operator into delay and slowness in his work.

Before ether the skill of the surgeon was estimated by his celerity. A good operator was brilliant and a quick one. The agonies of the patient enforced haste. Every means was used to shorten his suffering. Now all is changed,—largely to the surgeon's comfort, largely to his increased care and prudence, and as largely to delay, to deliberation over the steps of an operation, and to a too cautious and sometimes puttering execution. The patient may benefit by greater skill and by more conservatism; but he suffers from prolonged exposure, tedious narcotism, greater secondary shock.

8. Drunkards and steady drinkers succumb slowly to the narcotism of ether. They pass through a long period of excitement and delirium before they get to sleep; they have an equally long and violent delirium on coming out. They are subject during etherization to *persistent* and *recurrent tremors*, which delay an operation or jeopardize its safe execution. It is frequently not until the surgeon has finished that they become quiet and narcotized.

9. *Vomiting* and *lasting nausea* are among the disadvantages of etherization. The larger proportion of patients vomit during anæsthesia or after it, or both. This is especially disastrous in abdominal sections, in operations for hernia, and in section of the cornea and iris.

Vomiting during the operation may expel the vitreous humor. Vomiting after an operation I have seen extrude a strangulated intestine anew into the hernial sac. Vomiting after an operation equally is liable to disturb the stump of an ovariotomy and bruise peritoneal and omental adhesions, or, in an amputation, to burst the congealed mouths of small vessels, and lead to secondary hemorrhage under the flaps of the stump. Nausea may last two days, and may turn the scale against successful rallying from secondary shock. We know of no agent to arrest it.

10. *Intoxication and delirium* on coming out of ether are especially injurious after a simple, or worse still, a compound fracture, has been set. Except in a child, or to settle a diagnosis, the setting of broken bones is better done without ether. In nervous women the delirium assumes the form called hysterical. I have seen it last for twenty-four hours.

The following operations are better done without anæsthesia:

Extraction of cataract, already spoken of.

Tracheotomy for disease.

Paracentesis thoracis.

In tracheotomy for croup and diphtheria the little sufferer is already partially narcotized with carbonic acid. The cut frightens him no more than the ether would. The incisions through the skin comprise most of the pain. On the other hand, when etherized he often stops breathing, and the operation has to be done precipitately and not so well. It is absolutely essential, if you open the trachea in a child without anæsthetics, that you have abundant, cool, and competent assistants.

Tapping the chest and pumping off the pleural effusion has frequently been perilous, and sometimes fatal, with an anæsthetic. It is a safe operation without it.

There is no reasonable doubt that complete anæsthesia during parturition leads to tardy contraction of the uterus after labor, and hence increases the risk of flooding.

Deaths from inhaling sulphuric ether are rare. It is a noteworthy fact that most of them occur during operations on the rectum, perineum, or in the vagina. The reason is not far to seek. The surgeon is too far removed from the anæsthetic to notice the mouth, the tongue, the respiration, the diaphragm. An incompetent assistant or a nurse holds the ether sponge, and the patient may die before her peril is discovered. The operator should watch the levator ani muscle, which moves with the diaphragm. This may be called perineal or pelvic respiration.

What are the essentials for giving ether safely?

An empty stomach.

A loose neck.

A free abdomen; no corsets or skirt bands.

Removal of artificial teeth.

An easy, semi-recumbent position.

A sponge wrapped in towels for the ether.

A gag, and forceps for the tongue.

When stertor occurs the patient should be tipped forward, the cheek opened with two fingers, the tongue drawn out, the fauces swabbed. To *insure* safety the surgeon should hear every respiration of the patient.

Anæsthesia from sulphuric ether is of two forms:

1. Primary anæsthesia, which is a moment of confusion coming on after a very few inspirations. At this moment a felon can be opened without pain, and the patient wake at once.

2. Comatose anæsthesia, for prolonged operations. Ether *may* be given almost indefinitely. To relieve the hopeless agony of tetanus I have had it administered for twenty-four hours.

If you would avoid asphyxia, nausea, and headache, and be *safe*, use only the purest anhydrous sulphuric ether.

CASE OF SPASM OF THE MUSCLES OF THE FACE AND CATARACT DUE TO DENTAL IRRITATION. Read before the Harveian Society, of London, by Henry Sewill, M.R.C.S., L.D.S., and published in the *British Medical Journal.*

The patient was a middle-aged lady, unmarried. She had suffered all her life from bad teeth and neuralgia. During late years the suffering had frequently been acute, and she had a constant succession of alveolar abscesses, with great swelling of the face, especially on the right side. She had long been under the care of Dr. W. Hoffmeister, of Cowes, who had frequently urged her to have her teeth attended to, but without avail. The patient could not overcome her dread of dental operations.

About two years and a half ago, during 1881. her right eye became painful at times, apparently from neuralgia. In January, 1882, contraction of the muscles of that side of the face took place, and has persisted ever since. In July of that year, drooping of the right eyelid came on suddenly, and she then discovered that she had lost the sight of her right eye. Dr. Hoffmeister, believing that her condition was due to the dental disease, and having again urged her in vain to have her teeth examined, sent her to Dr. Ferrier. In July, 1883, she went to Dr. Ferrier. He reported the case as follows:

She was a very nervous middle-aged spinster, with facial spasm and apparent neuralgia on the right side of the face and head. She said she could not open her right eye, but on examination this was found to be not exactly true, as with effort she could do so. The closure of the eye was found to be due to spasm of the orbicularis muscle, and was not ptosis. She would scarcely allow her head and face to be touched, but there was evidently great tenderness in the region of the right upper canine. The neighboring teeth were much encrusted with tartar, and the gums looked red and swollen. The right lens was almost opaque. Believing that the cause of the neuralgia, the facial spasm and the cataract was in the dental disease, Dr. Ferrier insisted that she should have the teeth set right or extracted. That the dental disease was the cause of trophic disorder, leading to cataract, Dr. Ferrier considered most probable, looking at all the circumstances of the case, and the fact that the symptoms were entirely unilateral.

The patient was at length induced to have her teeth examined, and came to me. I found in the upper jaw the stumps of some molars, and the bicuspids, canines, and incisors, except the left central and lateral incisor. In place of these was a vulcanite frame, with artificial teeth, attached to the neighbors. This had not been removed for years, and, as well as the rest of the teeth, was covered with tartar. The upper teeth were all carious, and were the centres of inflammation of long standing. The right canine was broken down nearly to the gum. Considerable thickening and swelling existed upwards over the root, and pus could be pressed from the gums through small fistulous openings over the roots of all the teeth. The lower teeth, of which about ten remained in front, were hidden beneath an enormous mass of tartar, which extended fully half an inch over the floor of the mouth. The patient's confession that she had endured years of incessant pain and discomfort from her teeth through dread of dental operations, was amply borne out by examination. Nitrous oxide was administered on two occasions, and the upper teeth were extracted. The tartar was gradually removed from the lower teeth, and an artificial set of upper teeth was provided. Within two days of the extraction of the teeth the facial spasm entirely disappeared. The patient's health rapidly improved, but no change took place in the damaged lens.

This is the first case of disease of the eyeball with which I have met. I see cases of neuralgia in the neighborhood of the eye very commonly, and cases of neuralgia of the eyeball less frequently, in which the cause is easily traceable to the teeth, the eye being perfectly healthy. The pain, in some cases, is attended with lacrymation; in a few, with muscular twitchings of the face. The most frequent condition of the teeth giving rise to the neuralgia and other symptoms, is caries, with exposure. and chronic inflammation of the nerve. Patients are often unconscious of the condition of the teeth, the pain being distant, and the teeth not aching. Touching the exposed nerve, or directing a stream of cold water upon the tooth, or into the cavity, will usually bring on a paroxysm of the distant pain, and establish a diognosis where doubt exists. Dental periostitis, exotosis and also impacted lower wisdom teeth, are less common causes of neuralgic pain.

From a paper lately read at the Odontological Society, by Mr. Henry Power, (1) I learned, with considerable surprise, it must be confessed, that Mr. Power and numerous first-rate ophthalmic authorities, British and foreign, hold the opinion that dental lesions are very frequently the cause of serious diseases of the eye. Mr. Power. lays it down as a maxim to be generally observed that in all cases of threatening glaucoma especially when this is associated with ciliary neurosis, and obscure pains in the temples and maxillary orbital regions;

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1. "On the Relations Between Dental Lesions and Diseases of the Eye." By Henry Power. Transactions of the Odontological Society, Nov., 1883.

in all cases of mydriasis, and probably of myotis, originating without apparent cause; in all cases of sudden paralysis of either of the orbital muscles, or of the loss of sensation, in the absence of cerebral symptoms; in all cases of phlyctenular disease of the conjunctiva; in all cases of ulcers of the cornea resisting ordinary treatment; in all cases of sudden failure of accommodation, especially in young children, and, finally, in all cases of exophthalmia, the condition of the teeth should at least be examined, and if faulty conditions present themselves, these should be at once rectified, and then one at least of the possible causes of each of these diseases will be removed. To this list must now be added cataract; for, although Mr. Powers tells me that he has not seen such a one, he accepts the case I have narrated as probably due to dental irritation.

Mr. Powers gives many cases of his own and of other well known observers — Hermann Schmidt, Galezowski, and von Gräfe — in support of his opinions, and these opinions were corroborated by other ophthalmic surgeons in the discussion at the Odontological Society. Mr. Powers points out the various ways in which the diseased action about the teeth may reach the eye. These are (1) by inhibition; (2) by trophic or vaso-motor influence (under this heading Mr. Powers would place my case); (3) by extension of neuritis; by reflex irritation or sympathy.

I must express no opinion on these views, but I may repeat that I have never, with one exception, met with a case of eye disease in which there seemed reason to suspect diseased teeth as a cause, that is, I have never had such a case referred to me as a dental surgeon in hospital or private practice.

I trust that my case may be considered worthy of record and of discussion, and, in order to stimulate discussion, I have ventured to cite the recent apropos remarks of Mr. Henry Power. — *Brit. Med. Jour.*

TREATMENT OF GASTRIC ULCER.—At the session of April 25, of the Société Médicale des Hospiteaux, there was an interesting discussion on the treatment of ulcer of the stomach.

The discussion was opened by Dr. Debore, who remarked that the ordinary way of treating simple gastric ulcer by an exclusive regimen of milk and lime water or milk and Vichy water often fails. One of the inconveniences attending this treatment is that large quantities are required to sustain the patient, that is, a gallon or more a day, from which irritation and even dilatation may result. The attempt has been made to give an equivalent in milk in smaller volume by using milk powder or condensed milk. These preparations had not been successful in Dr. Debore's practice. The same may be said in regard to the meat powders so much employed in "glevage" or forced feeding, which are ill borne in gastric ulceration, and often occasion vomiting. In view of this want of success, Dobore asked if it were not possible to find some other regimen, which while nourishing the patient, would suspend for a time the action of the stomach and suppress the secretion of gastric juice, whose injurious influence on the march of ulceration is universally conceded. Certain authorities have lauded the benefits of enemata of peptones, substituting rectal alimentation for alimentation by the stomach, but this does not allow the organism to be sufficiently nourished, especially if the enemata be depended on for a long time.

In view of the impossibility of suppressing the secretion of gastric juice, Debore has endeavored to modify its acid reaction by neutralizing it. The acidity of the gastric juice is so characteristic and so necessary to stomach digestion that one may truly say that gastric juice when rendered alkaline has lost all its properties. There is equal reason to believe that it is to this acidity that the gastric juice owes its power to prevent the healing of the simple ulcer. The problem then consists in finding how to so neutralize the gastric juice that the azotized food may be given to patients in such a way that the digestion shall be accomplished not in the stomach, but in the small intestines. With this end in view Debore administered to his patients a certain quantity of meat powder associated with a large dose of bicarbonate of soda; twenty grammes, for instance, of the powder and ten grammes of bicarbonate at each meal time. Several trials assured him that the theory which he had adopted was correct. On withdrawing, for example, by a flexible tube the contents of the stomach in patients to whom he had previously given the mixture of meat powder and soda, he ascertained that there was no trace of peptones. He treated in this manner four patients affected with ulcer of the stomach. In all these the intolerable pain which they were suffering and the vomiting disappeared.

At the present time Dr. Debore relies on the following procedure: During the first few days he washes out the stomach to free it of acid matters it may contain. This operation has never in his practice provoked hematemesis, and is regarded as safe. He uses a soft flexible tube, whose extremity if it hit against the ulcer could do no harm. In the next place he administers to his patients three times a day, twenty-five grammes of powdered meat suspended in milk and mixed with ten grammes of bicarbonate of soda. This mixture is administered at meal time and by means of the stomach tube, as it is very disagreeable to take in the ordinary way as food. The patient is given, besides, a quart of milk a day, rendered alkaline by lime water. The patients have been confined to this diet for several months at a time, and this treatment has never given rise to any of the symptoms which characterize what has been called the "alkaline cachexia."

Dr. Jaccoud moreover affirms that he has been able to give to certain patients for a very long time twenty grammes a day of the bicarbonate of soda without the least harm resulting. Charcot has also given as much as thirty to forty grammes a day without noting any cases of cachexia. If it is well established that the bicarbonate of soda long continued does not produce cachexia, it is no less true that its employment is attended with certain inconveniences. Besides its disagreeable taste, its action on the stomach is somewhat irritating, and by its decomposition under the influence of the digestive secretions it sets free considerable quantity of carbonic acid, which causes painful eructations. Another reason which has prompted Debore to seek a substitute for the bicarbonate in some other alkali is, that the former by reason of its great solubility may be too speedily absorbed, and consequently fail to sufficiently neutralize the gastric juice. He has tried to replace the soda with lime water, saccharate of lime, and magnesia. All these have their advantages and disadvantages, and he now uses that combination which has given the best results. At each meal, which consists of twenty-five grammes of meat powder well stirred into milk, he adds a small package containing a mixture of about equal parts of calcined magnesia and bicarbonate of soda. He also orders the patient to drink each day a quart of milk to which is added one gramme of saccharate of lime.

In the discussion which followed Dr. Duguet did not share the opinion of Dr. Debore as to the innocuousness of lavage of the stomach in patients affected with chronic ulcer. He cited an instance of frightful hematemesis and death following the use of the sound, which had produced aspiration at the surface of the ulcer, and provoked hemorrhage.

Dr. Guerin Roze did not agree with Dr. Debore in the proposition that dilatation of the stomach is likely to follow a milk diet in ulcer of the stomach. Every day we see cardiac or nephritic patients put on a diet of milk and we seldom or never see dilatation of the stomach in such patients.

Dr. Bucquoi had never seen death result from the use of the sound and lavage in gastric ulcer. He had, however, seen the liquid siphoned out of the stomach in this operation present a decidedly bloody appearance, and he was inclined to ascribe the source of the blood, in part at least, to the aspiration produced by the sound. Hence he was disposed to be very cautious in the use of the stomach tube in such cases. As for dilatation of the stomach, he did not think it could be due to the milk diet. All chronic diseases of the stomach are accompanied by its dilatation whatever treatment be employed. It is the lesion of the mucous membrane, and the paralysis consecutive to the long sojourn of the alimentary substances, which causes the augmentation of the volume of the stomach. He thought it proper to emphasize this fact in connection with ulcer of the stomach, because the milk treatment which is on the whole the most certain and reliable, has been wrongly, as he believes, blamed for the dilatation which accompanies the lesion.

Dr. Debore, in closing, said that he did not pretend that the milk diet gives rise to dilatation in all cases of ulcer of the stomach. There are in fact some patients who can take milk in small quantities at a time, and who can thus ingest several quarts a day without danger. There are others who have only two or three meals a day, and who drink a bowlful or two of milk at one time, thus forcibly dilating their stomachs. He has, moreover, seen a number of cases of dilatation of the stomach in which the dilatation disappeared when the dietary regimen was modified, and this fact he regarded as a strong confirmation of his thesis.—*Boston Med. and Surg. Jour.*

A New Method of Treatment of Angeiomatous growths.—By Henry O. Marcy, in the *Archives of Pediatrics.*

Although relegated to the domain of minor surgery, there are few surgeons who have not often met with cases of angeioma which have given great difficulty in the cure, and, when effected, have left very unseemly cicatrices.

Owing to the uncertainty of the ligature and the resulting deformity, many have advised the careful dissection of the vascular tumor, retaining the skin which, although discolored, will, after a time, fade out, and by this means lessen the resultant deformity.

I know of no method having been advocated for the application of the ligature by which it has not been designed to secure complete destruction of the enclosed tissues. It is the knowledge of such destruction and the consquent deformity from cicatricial contraction which has caused the operator to include as narrow a limit of the tissues as may be deemed practical, prefering a second operation to an over-large slough. On this account the operation often proves a failure.

In most instances, even in a rapidly-growing nevus, there will be found a proliferating re-inforcement of the connective tissue upon the borders of the vascular zone, as if nature was endeavoring to erect a barrier against a farther spreading of the disease. Not to include this in the measures devised for constriction means failure, and in a short period the cicatrix may be found borne upon the top of a rapidly spreading erectile growth.

For a considerable period I have applied for the cure of a variety of vascular growths a suture which I have called "the shoemaker's stitch," since it carries, by means of a long needle set in a firm strong handle, the ends of a suture from opposite directions through the same puncture. The eye is placed near the point which is without cutting edges. Armed with the ligature the needle is thrust deeply under and quite away from the vascular growth; emerged from the distal side the ligature is detached and the opposite end threaded, when it is withdrawn and again inserted purposely only a short distance from the first puncture, since it is important to include only a comparatively small portion of tissue. Thus the process is repeated, stitch, after stitch, until the entire mass is enclosed and the fixation is completed by a single knot. In this way uniform and steady pressure can be attained and maintained as long as is desired.

The purpose of the procedure is not to strangulate and cause necrosis of the tissue, but to constrict so as to reduce to the minimum the circulation and yet preserve its integrity. The use of the stitch as here described was first devised and put in practice by myself, some years since, for ligating the uterine stump after the removal of the organ, where I had felt it very undesirable to have necrosing tissues shut up within the abdominal cavity.

A brief description of a case operated on in the above described manner will serve best as an illustration:

A child about eighteen months old presented a rapidly proliferating nevus upon the right side, posterior to the axillary line, involving the sixth and seventh intercostal spaces. Its diameter from above downwards was about two inches, while its long axis parallel with the ribs was three inches, and it was elevated about one inch above the surrounding parts. About half its size was covered with a cicatrix, resultant from an operation undertaken for its cure three or four months earlier.

I made two incisions through the skin parallel to the long axis of the tumor and enclosed the mass as above described.

Upon the completion of the operation the tissues enclosed were a deep purple, which slowly faded to a dark pink upon the fifth day when the stiches were cut away and a rubber bandage applied over the compress in order to hasten the absorption of the firm, hard mass remaining.

This slowly supervened and there is now, two years after the operation, the cicatrix resultant from the first operation and the two parallel lines showing the incisions through the skin. The incision through the skin very probably renders the constriction less painful, but I would advise the sewing without incision in operations upon the face or exposed portions of the body, since there would result at the most only the puncture points to mark the location of the angeiomatous growth.

I am well aware that there are locations where the applications of a suture, as here described, might be very difficult or impossible, but I am assured that in most instances the application can be made much more easily than the complicated ligatures devised by the late Sir William Ferguson, or its modification as used by Mr. Erichsen.

RECOVERY AFTER TRANSFIXION OF THE HEART.—An elderly lady with suicidal proclivities for which she was under treatment in a hospital, was found one evening, just after getting into bed, to have become suddenly and violently ill, and medical aid at once was summoned. On its arrival she was found to be quite unconscious, very pale, skin cold and clammy, pupils widely dilated, but there was no conjugate deviation present; the features were drawn and altered, and the head was drawn rythmically from side to side, patient moaning at times. The radial pulse on the right side was very weak, that on the left almost imperceptible; rate seventy-eight per minute. The left arm and leg were quite paralysed, so far as could be made out. The right arm was feebly and aimlessly lifted and let fall now and then. She had vomited a little, but no deleterious substance could be detected in the ejected matter by the rough examination possible at the time.

On palpation over the precordia the cause of this rather puzzling condition was discovered. A knob about the size of a large pea was felt adhering to the chest-wall in the region of the apex beat, and this proved to be the head of a large steel shawl-pin, three and a half inches long, which the patient had succeeded in secreting, unobserved by the attendant in charge, and which she had thrust right into the chest at the situation mentioned above, the part embedded being directed slightly upwards and inwards and measuring about two and three-quarter inches. It was at once removed and stimulants administered, and almost immediately the heart's action began to gain in force. The pulse became stronger and steadier, and consciousness slowly and steadily returned. For some time there was very urgent dyspnea, and she complained of much pain in the precordia, but these unfavorable symptoms diminished as time went on, and after an hour had passed she was much better, the paralysis of the left side had disappeared, the pulse was steady and of fair strength—rate one hundred and eight per minute—and she was quite conscious of all that occurred around her. After four hours she was sick again, and vomited a little, but this soon passed off and she fell asleep, and slept at intervals during the rest of the night, stimulants being frequently given in small doses. On the following day she complained of some pain at the site of puncture, and of headache, but was otherwise pretty well, and her recovery proceeded after this without an interruption. Some months have now elapsed, and no trace of the injury can be detected.—*Edinburg Med. Jour.*

LANDOUZY AND DEJERINE ON A SPECIAL FORM OF GENERAL SPINAL PARALYSIS.—Messrs. Landouzy and Déjerine have recently described a form of general spinal paralysis, which is chiefly characterized by its rapid evolution and its curability. For a few days the patient (generally an adult, but sometimes a child) is deprived of the use of his legs and arms; the paralysis begins in the lower extremities and travels upward, but never reaches the face, and is not accompanied by spasms; there is no anæsthesia, and the sphincters are not implicated. After a short time the paralyzed muscles waste rapidly, and the disease remains apparently stationary for some weeks. Then a gradual return of the movements and a corresponding diminution of the atrophy take place, and after some months all the symptoms have disappeared. The disease must not be mistaken for the acute spinal paralysis of the adult, which begins more suddenly, and is almost always accompanied by fever. It must be noted, also, that in the curable form all the muscles of the extremities are equally and symmetrically atrophied and paralyzed, which is not the case in the acute form. The best treatment consists in tonics, hydrotherapy, and electricity.—*London Medical Record.*

ANEURISM. — M. Trélat communicated two cases of aneurism to the Société de Chirurgie, one of which refused to be influenced by indirect pressure sustained for a relatively long period. The position occupied by the tumor was the popliteal space, and although compression was made in Scarpa's triangle, no diminution was appreciable. At last the ligature was resorted to, and the tumor was not slow to shrink, harden and disappear. The same member reported a case of suture of the perineum, in which the perineal and vaginal sutures were made. The patient cured rapidly. Out of eleven cases thus operated upon, only three failed. M. Verneuil, who agreed with M. Trélat as to the position of the sutures, preferred the silver wire to the mother-of-pearl buttons; he leaves them eight or ten days *in situ*. M. Després was astonished at the large number of these cases which have recently come to light. In his long career he had only three times practiced the operation. His principle was to wait until three months after the delivery, and to prevent the vaginal liquids from penetrating the wound, he made the patient lie upon her face.

M. Thomas communicated the case of an irreducible prolapsus of the uterus, and for which he was compelled to have resource to total ablation by the elastic ligature. It was the case of a domestic, who for two years had been suffering from the affection in question, and all attempts at reduction were rendered useless. The tumor was voluminous, and showed signs of sphacelating. In an attempt at reduction he tore the posterior wall of the vagina. It was then he decided on extirpation, and the patient made a good recovery.–*Medical Press.*

OBSTETRICS AND DISEASES OF WOMEN.

HYDRASTIS CANADENSIS IN GYNECOLOGY. Dr. Schatz, of Rostock, read a paper on the above subject at a recent meeting of the German Gynecological Society.

He is of opinion that the medicinal treatment of the diseases of the female sexual organs has been crowded too far into the background by the operative treatment; that now-a-days the knife is not rarely resorted to in cases in which favorable curative results could be attained by less formidable measures. The author thinks that, especially in functional disturbances of the uterus and ovaries, in menstrual anomalies, direct or reflex nervous, or even congestive troubles, medicinal treatment ought to be tried if the difficulties are but moderate, if an operation is dangerous or mutilating. He calls attention to the fact that often accidental changes in the mode of life, of the climate, psychical alterations, nervous irritations, and finally medication prescribed for other purposes are followed by obvious and unexpected changes in the affections named.

With this view, Schatz experimented with hydrastis. He used the fluid extract in about fifty cases. Two-thirds of these were utilized in estimating the value of the drug. In general it seems to act on the mucous membranes by exciting their vessels to contract. In the female genital apparatus, it seems not only to diminish the blood supply of the mucous membranes, but to act on them as a whole. It is remarkable that the remedy is often effective in cases in which ergot has failed or even has rendered the symptoms worse.

Favorable results were obtained by Schatz mainly in metrorrhagias due to myomata (ergot had long been used in vain), in hemorrhages in the puerperium, in menorrhagias of young persons from fifteen to eighteen years of age, finally also in those forms of endometritis in which curetting had failed. In most cases, he commenced the use of the drug one week before the onset of the menses; where the catamenia recurred with undue frequency, even longer previous to the normal date of their appearance. In several cases, the flow became not only less profuse and shorter in duration, but several times it failed to set in altogether. In the case of myomata, too, the hemorrhages disappeared often for months. The incidental effects of the drug generally were only agreeable in their nature. Particularly noticeable was an increased appetite. Once only a certain lassitude occurred; in another case, states of exaltation. The dose of the fluid extract is about twenty drops three times a day.—*American Journal of Obstetrics.*

It has also been highly extolled in the treatment of dysmenorrhœa. — *Canada Lancet.*

Bibliography.

ONE HUNDREDTH ANNIVERSARY OF THE MEDICAL SCHOOL OF HARVARD UNIVERSITY. (1)

Along with the address by Dr. Oliver Wendell Holmes, and that of President Eliot, this pamphlet contains a full report of the exercises celebrating the event. Speeches were made by a number of eminent men, among them Dr. Francis Minot, presenting a portrait of Dr. Holmes;

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1. Addresses and Exercises at the One hundredth Anniversary of the Foundation of the Medical School of Harvard University. October 17. 1883. Cambridge; John Wilson and Son. 1884,

the Hon. Samuel A. Green, M.D., presenting a bust of Dr. Henry J. Bigelow, and Mr. Henry Lee, in presenting the new building, with a response by Dr. Henry W. Williams, on behalf of the Medical Faculty.

Handsome illustrations are given of the new Medical School building, Holden chapel, the old Massachusetts Medical College, 1815, and Harvard Medical School, 1846. There is appended an appeal on behalf of the endowment fund of the college, by Dr. Holmes. J. M. F.

MEDICAL ANNALS OF BALTIMORE. (²)

This volume of 275 pages is dedicated "To the medical men of Baltimore, whose lives and labors, both as citizens and physicians, have done so much for the welfare of the city and the advancement of their own profession." It was published in compliance with a decision of the Medical and Chirurgical Faculty of Maryland, at a special meeting held October 13, 1880 in commemoration of the anniversary of the founding of the city.

The volume contains not only a catalogue of all the physicians who practiced in Baltimore during the period stated, but also their military and professional services, and their literary productions. The value of such a record is apparent, and we need hardly speak of the vast labor that must have been expended in its production. Great credit is due the author. J. M. F.

AMPUTATION EXTRAORDINARY. — At a collision on the New York Central and Hudson River Railroad near Albany on the night of May 22nd, unusual nerve was displayed by Frederick Parrish, a sleeping car conductor, who finding his arm so badly crushed as to render its loss certain, ligated the limb near the shoulder-joint with a strap, and amputated it just below with his pen-knife.—*Boston Med. and Surg. Jour.*

The *Archives of Pediatrics*, a medical monthly devoted to the diseases of infants and children, will henceforth be issued from the New York office of the publishers, John E. Potter, & Co.

TO BE kissed by the daughter and kicked out the back door by her father is what might be termed the "foot-and-mouth-disease."

(²) From 1608 to 1880. Including Events, Men and Literature. By John R. Quinan, M.D, Member Medical and Chirurgical Faculty Maryland Baltimore: Press of Isaac Friedenwald. 1884.

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Original Articles.

EARLY ASPIRATION OF PURULENT ACCUMULATIONS.

A Paper Read before the Ohio Central Medical Society, June 7th, 1884,

By **Frank Warner**, M.D.,
Columbus, O.

The many grave symptoms which the accumulation of pus in the various cavities of the body may occasion has been a source of the greatest perplexity to physicians through all the ages in which this class of men have been called upon to treat disease. To allow nature to attempt to remove these accumulations is, in many cases, a dangerous experiment, while, to perform many of the operations which patients have frequently been subjected to, would be equally hazardous. While marked advancement in its mode of removal has constantly taken place, yet the only manner of its production for universal application, approaching perfection, has been brought forward and perfected within the last few years.

Before proceeding to discuss the mode of removal of purulent accumulations by surgical means, we will notice the manner in which these exudations take place, as well as some of the laws which regulate its production and the manner in which it is disposed of when uninterfered with by art.

If the mesentery of a curarized frog be irritated by any means, and then placed under the microscope and watched for a few hours, a curious transition will be found to take place in the surrounding tissues. The blood current, first hastening in its onward flow, soon slows, and more especially is this apparent along the walls of the capillary vessels. The white lag behind most and soon become almost stationary along the lining wall, but flow uninterrupted in the center of the blood vessels. If a white corpuscle now be watched, it will be seen to diminish in size and a small bud makes its appearance on the outside of the vessel immediately opposite; as the bud increases in size, the corpuscle inside diminishes until finally entirely disappearing here to increase the bud to a full corpuscle. This migrating body is now nothing more nor less than a pus cell. What has here been observed in the frog applies with equal force in the human subject, so, with a sufficient number of these corpuscles migrating through the vessels, we soon have an accumulation of pus. Along with these white corpuscles passes a considerable amount of fibrinous elements, serum, and a diapedesis of red corpuscles; and as one or the other of these elements predominate, the accumulation receives its name as purulent, serous, fibrinous, hemorrhagic, etc.

These observations, originally conducted by Cohnheim, I mention for the purpose of either retracing or watching the disposition nature makes of these elements in their new relations.

No rule can be laid down as to the amount of exudation which will occur in a given case, for, in a very high grade of inflammation, only a small number of white corpuscles may wander from their vessels; yet it frequently happens that, in a low grade of inflammation, the migratory cells pour out in great numbers. Probably, as a rule, a constitution lacking in *tone*, for any reason, will encounter more extensive exudations than one in full vigor. Likewise, a continuous irritation, as the admission of air into a cavity, will be more likely to determine an extensive exudation than where the original cause was evanescent, and existed only at the outstart. In cases where there is very little inflammatory action, as in "cold abscesses", there is apt to be an extensive exudation of the white corpuscles, with very little fibrinous elements; for, in that class of cases, there is probably always a continuance of the original irritation which produced the exudation. Then, too, where a purulent accumulation exists for any length of time, a pyogenic membrane forms and its tendency is to continue indefinitely the exudation already existing. A depreciated condition of the vital powers brought about by the inflammatory action, an elevated temperature, loss of appetite, and a resulting waste of the tissues, exerts a powerful influence in the continuance and increase of the exudation. Pus retained in a cavity any length of time is apt to set up a septicæmic condition of the system, and this state, once produced, in turn, tends to increase the exudation.

A purulent accumulation uninterfered with may

1. End in septicæmia or pyæmia and death.

2. The pus may ulcerate through the surrounding tissues, emptying itself either

externally or internally, or produce extensive burrowing.

3. The pus may become absorbed, either by return of the migratory corpuscles through the walls of the veins or capillaries, or entering the open mouths of the lymphatics, or undergoing fatty degeneration, the pus cells may in that way become absorbed.

The pathological character of these purulent accumulations is inflammation, and this cannot subside as long as the wandering leucocytes are remaining in contact with the outside walls of the vessels. They there act as an irritant until either they find their way back into the vessels, or undergo fatty degeneration, or until the pus is removed by art or nature.

We have spoken of the mode of occurrence of these suppurative inflammations, of the danger of delaying their removal. So now let us consider some points in regard to the removal of purulent accumulations by means of aspiration. Several considerations at once arise as to the time best suited to aspirate; the class of cases in which we should perform this operation; and the advantages it possesses over other methods of procedure.

Aspiration is not equally well adapted to the removal of pus in all situations, but we secure the most brilliant results in its use in purulent inflammatory difficulties of the various cavities, though equally good results are often obtained by its employment in other localities, as in abscess of the liver, breast, etc.

There is positively no advantage in delaying this operation for any purpose, as is sometimes done in waiting for an abscess to become "ripe." For besides many dangers in waiting, as pyemia, septicemia, a hectic condition of the system or a greatly depreciated vital force, we may frequently put a stop to the inflammatory process by the early removal of the pus, which can only cause by its pressure a still greater migration of white corpuscles. As is a well known law, secretions, excretions, etc., when in contact with tissues which do not normally contain them, act as irritants and foreign bodies. Just so with these purulent accumulations. The white corpuscles in their normal relation—the intima of the blood-vessels—occasion no irritation, but wandering away and assuming new relations with the tissues, they act as irritants, and increase the difficulty. Therefore the time to aspirate is as early as the presence of pus can be determined. Pus retained in a cavity any length of time is apt to undergo decomposition, but by timely aspiration this source of irritation is avoided. In many cases it is well to wash out the cavity after withdrawing the pus with a weak aqueous solution of carbolic acid or bichloride of mercury. All cavities should thus be washed out in which the pus has undergone any decomposition.

A great advantage this instrument possesses over other appliances for removing pus consists in the fact that the needles are so delicate that the various serous sacs and important secreting organs may be opened without great danger. Then it is often important to exclude the entrance of air, laden with germs, into the cavities, and the aspirator accomplishes this perfectly.

It may be well to remark on a few of the many places in which the purulent accumulations may take place, which are so favorably affected by aspiration:

Recent experiments demonstrate that in abscess of the liver, where the pus can be reached and evacuated, a very large proportion of cases recover immediately. It is a remarkable fact, says a prominent author, that many cases in which the symptoms of abscess exist, and yet no pus is found, are greatly benefitted by the puncture. The modern experiences have demonstrated also that, punctured by suitable needles, no injury is done to the liver, and repair takes place so perfectly that after death no trace of the operation is visible.

The necessity for the early evacuation of the pus consists in this, that only a portion of the abscesses are confined to a limiting membrane, and that those thus restricted do not long remain encapsulated, but tend to make their way externally. In Conden's collection of cases there were eight of abscess evacuated by the trocar, of which four recovered, and three of hepatitis, without suppuration, in which the trocar was inserted deeply into the right lobe, all of which were much relieved by the puncture, and cured. In Sach's collection of twenty-one cases, there were eight recoveries after puncture, being in the proportion of thirty-eight per cent. Under the old system of using the knife or trocar when the pus was already pointing, as represented in the statistics of Waring, there were sixty-six deaths in eighty-one cases, making the per centage of recoveries 18·5.

Some time ago, a robust laborer, about forty years of age, was kicked by a horse in the hypochondriac region of the right side. In two months this injury resulted in an abscess of the liver, as was determined by the symptoms and signs. The aspirator was used, and fifty-two ounces of greenish looking pus was withdrawn.—Pieces of broken-down hepatic tissue came away with the pus, as was shown by the microscope. At the time the man was very much emaciated, had hectic irregular chills, a diurnal elevation of temperature, loss of appetite, etc. Almost from the day of the operation the man began to improve in every way, and in a few weeks was enabled to leave his room, and afterward entirely recovered. There was no pointing of the abscess at the time the aspiration was performed.

Extensive and prolonged suppuration of lymphatic glands may often be prevented by timely aspiration of even a very small purulent accumulation, and then washing out thoroughly with carbolic acid water or a solution of bichloride of mercury, 1 grain to pint. Before passing the needle into the tissue of any organ, it should be immersed in hot, carbolized water, and thoroughly cleansed.

In cases of chronic synovitis it is customary in its treatment to apply pressure in some form to assist in removing serous accumulation. If this liquid be serous, all is well, the pressure may accomplish its removal, but if, on the other hand, it be purulent, no amount of pressure will do anything toward its absorption; it will be very likely, however, to cause still greater difficulty, indeed, such violent inflammation may result that all prospect of a favorable termination of the joint trouble will have been blighted. So, it seems to me, we should aspirate these joints, if only by a hypodermic needle, that we may first determine the character of the liquid in the synovial sac, before proceeding to any active pressure. If the fluid be purulent, then certainly withdraw all, and wash the cavity out with carbolized water.

Elegant results are usually obtained by the use of the aspirator in cases of empyæmia, though a number of repeated operations are necessary before the tendency to pus formation will have ceased, but by the injection of iodine tincture, as is well known, this tendency is materially lessened. The earlier the operation is performed after the liquid has become purulent, the less likely will it become necessary to repeat the aspiration. It is not very safe to use a canula which has a cutting point, for the lung may become wounded as the pus is withdrawn and the lung expands, but instead, use a canula having the trocar attachment, and this danger will be greatly obviated. The rule is sometimes laid down in works to be careful and not remove too much fluid at one sitting, but it has seemed to me in operating a number of times that a much safer guide is the rapidity of removal—not to allow the accumulation in the pleural cavity to be withdrawn too rapidly. Withdraw a few ounces, then stop a few moments, and give the pulmonary tissue an opportunity to accommodate itself to the new relation, then again proceed.

Wherever the locality in which we may desire to operate, aspirate early. Let us not wait in the vain hope that the accumulation may become absorbed, or that it may find an opening itself, or wait until the pus may have become decomposed, setting up still more violent inflammation, or until septicæmia or pyæmia may supervene, or until a pyogenic membrane forms, which will render it much more likely for the accumulation to re-form. But as the danger in this operation is so slight, and as by operating without delay we avoid so many of the difficulties which follow, let us proceed to operate early in these purulent accumulations.

EXTRACT OF MALT, AND ITS MANUFACTURE.

A paper read before the Ohio State Pharmaceutical Association at its annual meeting, Cincinnati, May 29, 1884.

By JOHN L. IRWIN, Ph.C., Cincinnati.

In a recent communication from the editor of one of our pharmaceutical journals, reference was made to the fact that while many plans for testing a genuine extract had been submitted by the different manufacturers, yet the process of manufacturing it had not been published. Prompted by the suggestion it occurred to the writer that a detailed description of the process of its manufacture on a large scale would be of interest to the members of this association, and hence has prepared the following paper on the subject.

It may seem to those inexperienced in

the manufacture of extract of malt that it is quite easily prepared, so simple are the formulæ given in works of reference, but the experience of the writer justifies him in the assertion that all such formulæ, that of the U. S. P. not excepted, are defective and of no practical value for the manufacture of a genuine extract on a large scale. The nature of one of the constituents of a good extract is such as to require its preservation from the time the grain is first moistened to the time the extract is completed, and it is on this point that the process given in the U. S. P. and other standards is practically defective.

In order to transfer the diastase from the malted barley unchanged, a menstruum should be used which preserves it in its journey from the grain to the finished extract. The following plan devised by the writer, is the result of several years' experience in the manufacture of malt extract, and while I cannot refrain from the assertion that experience alone can qualify the operator in securing the best product, yet the plan presented will, if faithfully carried out, serve as a guide.

APPARATUS USED.

For the manufacture on a large scale two principal kinds of apparatus are at present in use, viz: the hot air blast and the ordinary vacuum apparatus, the latter being the one with which the writer is more familiar. It includes an air-tight copper still, a cooler, a receiver or air chamber, and a good air pump capable of producing a twenty-seven inch vacuum. There are also required a thermometer, wooden wash tub, wooden percolater a good press, platform for dampening the malt, and the neccessary buckets, dippers, etc.

TO MAKE MALT.

Where the operator has the proper facilities for malting his own barley, the following directions will, I think, meet the requirements.

Take a convenient quantity of newly threshed barley, place it in a trough nearly full of water and allow it to steep until the water is of a bright red color, which will be in about three days, more or less, according to the size and dryness of the grain, the season of the year and temperature of the air. In summer malt does not make well; in winter it requires a longer steeping than in autumn or spring. It may be known to be steeped enough by other marks besides the red color of the water, as by the excessive swelling and softness of the grain if it be oversteeped, being when in right temper like the barley prepared to make broth. When sufficiently steeped take it out of the trough and pile it in heaps so as to let the water drain off, then after two or three hours turn it over with a shovel and lay it in a new heap about two feet high. This is called the "coming" heap, and in its proper management lies the principal skill. In this heap it may lie about forty hours before it comes to the right temper, and it must be carefully watched about the fifteenth and sixteenth hours, about which time the grains begin to put forth shoots, within an hour of which the malt must be turned over with a shovel, otherwise the grains will put forth the blade and spire, which must be by all means prevented. If all the malt grains do not come equally, but those in the center, being warmer, come first, the whole must be turned so that the inside is outside, and so on until it is all alike. When the malt is sufficiently "come," turn it over and spread it to a depth not to exceed five or six inches, and by the time it is all spread out begin and turn it over again three or four times. Repeat this procedure once in four or five hours, eight or ten times, making the heap larger each time. This cools, dries and deadens the grains so that they become mellow, melt easily in brewing, and separate entirely from the husk. Then throw up the malt in heaps as high as possible, and let it lie until it becomes as hot as the hand can bear it, which is usually after about thirty hours. This perfects the sweetness and mellowness of the malt. Now after it is sufficiently heated, throw it abroad to cool, and turn it over again after six or seven hours. Then dry it. The different degrees of dryness produces the different kinds of malt, viz: pale, amber, brown and roasted malts. The best and safest means of drying is by the cold air blast. If the malt is not well dried it will not dissolve well in the working, nor can it be well ground. Pale malt is dried the most slowly and the least, producing more extract than the high dried malt and of a better quality. The amber colored, or that between pale and brown, produces a flavor much admired in many extracts. Brown malt loses much of its nutritive qualities, but has a peculiar flavor desired by many palates. Malt roasted after the manner of coffee is generally used to give color and flavor to porter, which in the first instance has been made from pale malt. Soft water makes a stronger but more easily fermented extract than hard water.

Tests for Malt.

Where the operator has not the facility to malt his own barley, some care in selecting a good article should be used. An ancient custom of determining a good sample was to take glass a nearly full of water, and put in some malt; if the grains swam the sample was considered good, but if any should sink to the bottom it was not considered true malt. I think the best test is the general appearance, etc. First notice whether the grains have a round body, break soft, are full of flour their whole length, smell well, and have a thin skin. Masticate some of the grains; and if sweet and mellow they should be considered good; but if hard and steely and retaining something of the barley nature, the malt is not properly made, and weighs heavier than good malt.

To Grind the Malt.

To obtain the extract it is best to merely break the grain. For this purpose the malt is passed between revolving stones placed at such distance apart that each grain may be crushed without reducing it to a powder, for if ground too finely it thickens the solution and is difficult to percolate, while if not broken at all the extract is not all obtained. Pale malts are generally ground coarser than amber or brown. Malt should be used within two days after being ground to obtain the best results. Crushing mills or iron rollers may be substituted for the revolving stones, and on a small scale the malt grains can be broken by wooden rollers, or even with an ordinary coffee mill.

Moistening the Malt.

Take a convenient quantity of the ground selected malt, and having placed it upon a. clean wooden platform, prepare a menstruum for it consisting of one volume of 94 p. c. alcohol to three volumes of water. For a bushel of malt three gallons of such menstruum is sufficient. After having thoroughly dampened the malt with the menstruum, cover it with a rubber blanket to prevent loss of alcohol, and allow it to stand about twelve hours, working it up with a shovel every three hours.

Extracting the Diastase.

The writer has found that the best results are obtained when the diastase of the malt is first eliminated before preparing the starch for conversion into sugar by the former, so the dampened grain is transferred to a conical percolator, cold water is gradually poured over it until the liquid begins to flow from the faucet of the percolator, then return the percolate and repeat until the liquid runs clear and free from starchy granules. Continue the percolation with fresh cold water, until a quantity of liquid equal to four times the amount of the malt is obtained. Then by means of a rubber hose and air pump transfer the percolate to the vacuum still in order to have the spirit slowly recovered.

Recovering the Alcohol.

Having exhausted the still, cooler and air chamber by means of the air pump until the vacuum gauge registers twenty-seven inches, open the steam valve leading to vacuum pan and evaporate off the alcohol, which will condense in a cooler and can be collected in the air chamber. A temperature of 100° F. is generally enough to recover the alcohol with the vacuum. The time required for the recovery of the spirit varies according the apparatus, amount of malt worked, etc., but for the working of one bushel the time generally required is about half an hour. In case the starch liquid is not ready for the still in time, it is best to allow some of the alcohol to remain with the diastase to preserve the latter until the starch liquid comes in contact with it. When the starch liquid is all prepared for evaporation, and having evaporated off all the remaining spirit, then stop the pump and remove the pressure by allowing the air to enter through the valve on top of the still. When the gauge registers zero, open the valve in the base of the air chamber and remove the recovered spirit which is usually quite weak.

Mashing the Malt.

While the alcohol is being recovered from the diastatic percolate, the operator should give his attention to the separation of the starch liquid. To this end the malt is transferred from the percolater to the mash tub where the starchy matter must first be gelatinized before it can be acted upon by the diastase now in the still. A volume of water about four times the weight of the malt employed is then added and the whole mixed thoroughly. By means of the steam valve at the base of the mash tub the water is heated under constant stirring until it arrives at the boiling point, at which temperature it is kept for two minutes under constant stirring, in order to insure the perfect coagulation of albuminoids not extracted in the first percolation, and to gelatinize and dissolve every particle of starch. The mixture is then allowed to cool and an amount of water equal to half the weight of the malt. is added, and the whole after being well mixed is allowed to stand for about fifteen minutes. The outlet valve of the tub is then opened, the liquid repercolated until clear, and then collected in a receiver to be cooled down to at least 150° F. It is then transferred to the still by means of the hose and air pump, and it is there converted by the diastase into malt sugar.

EVAPORATION.

When the liquids are mixed in the still the whole is to be rapidly evaporated as soon as the vacuum gauge registers twenty-seven inches. The temperature necessary for rapid evaporation ranges from 110° to 140° F., the temperature rising above 110° as the extract begins to thicken. In no case should the temperature be allowed to rise above 150°, as it would impair the flavor, although the diastase may not be injured at a higher temperature, and the evaporation should never be stopped when once started until at least ten per cent of the liquid has been evaporated off.

The proper consistence for the extract depends upon the season of the year, that which would answer for summer not being suitable for winter, but the writer has found that a malt having a specific gravity of 1·4 while a little difficult to handle in winter will keep well in summer, and hence is of a desirable density.

PRESSING THE MASH.

After the liquid has entirely drained from the mash tub, the malt is next transferred to a press and the remaining liquid entirely pressed out and allowed to settle, the clear liquid poured off and mixed with the starch liquor in the still by means of the hose and air pump, an equal volume of warm water is again added to the malt in the press, and the pressing repeated until the malt is entirely exhausted.

PRECAUTIONS.

While the operator should observe all the general precautions necessary to operate a vacuum apparatus, yet there are some in the manufacture of malt extract deserving special attention.

In the first place unless the operator gives close attention to the apparatus while running on the malt, he will find that in nine cases out of ten the resulting product will be worthless as a digestive agent. From the time the malt is first moistened to the time it is in the form of a finished extract quickness in detail and constant attention are essential for a good product.

The percolating process is quite often found troublesome. In the first percolation after the latter has proceeded far enough to drive out all the alcohol, it is possible that the malt has been so finely ground as that when the water menstruum has been poured on, the latter will swell the small particles of the grain sufficiently to either cause the percolation to proceed so slowly as to impede progress or to stop up altogether and thus incept fermentation; and again, even after this percolation has been successful trouble may arise in the mash tub should the heat be allowed to continue longer than merely to coagulate the albumenoids and getatinize the starch; especially when the malt has been finely ground a paste is liable to form and again interfere with percolation; in such a case the best course to pursue is to transfer the whole to the press and squeeze out the liquid as quickly as possible. Care should also be taken that the starch liquid is cooled down below 150° before it be allowed to come in contact with the diastase.

Under no circumstances should the evaporation be stopped until the extract is of the consistence of simple syrup at least even in that condition it should not be allowed to stand any length of time before the evaporation is completed and the extract is of the proper consistence.

Sufficient time should also be allowed in boiling so that the albumenoids in the mash are entirely coagulated and hence retained in the dregs after percolation, as with their presence in the finished extract there is liable to set up a fermentation.

In the process of evaportion the operator should note the rate of distillation by glancing every few minutes through the eye piece of the air chamber and regulate the same by the time available to complete the process; and should keep the distillation at as constant a rate as possible; especial care should here be used, as the writer has observed that a peculiar stony substance may at times form by the foam from the malt and collect in the channel between the cooler and air chamber in sufficient quantity to close up the latter and either stop up entirely or diminish the rate of the distillation. In such a case it will be readily seen that should the heat and pressure be allowed to continue, not only disaster to malt and apparatus might result but even loss of life. The writer has noticed this trouble even with a high vacuum as shown by the gauge and every thing apparently going on all right except the rate of distillation.

The operator will find that there are many minor points which should be borne in mind while running extract of malt, and which experience alone can teach.

There are many preparations of malt at present upon the market, such as Liquor Diastase, Fluid Diastase, Fluid Extract and Tincture of Malt; all of which are of more or less value as digestive agents, but almost entirely void of the nutritive principle, which is an abundant constituent of a concentrated extract properly made. All the preparations alluded to contain a preservative agent, the presence of which acts to keep the diastase unchanged. The writer has found this agent in all thin solutions of diastatic malt to be alcohol, but in concentrated extract of the highest standard of qualtity the preservative agent is, fortunately, one of its natural constituents, and in sufficient quantity to prevent the decomposition of the diastase. While the fact may not be received with favor by the pharmacists present, yet it is none the less true that the large manufacturers can best prepare the concentrated extract, after having given much time and study to the subject, and so modified the various steps of the process as criticism and experience have suggested; they are thereby better enabled to offer a product which shall be unimpaired in medicinal value, both as a digestive and nutritive agent, and at a cost much less than it can be prepared by the pharmacist with his available appliances and apparatus.

On the other hand, I can freely admit that the thin solutions of malt above named can be prepared by the pharmacist with but little labor and cost furnishing a product which will in a greater or less degree meet the requirements when a digestive agent only is wanted. It would be quite unsatisfactory to me and equally so to the members present were I to endeavor to give you a written description in detail of the vacuum apparatus used in our laboratory, but with the approval of the Wm. S. Merrell Chemical Company with whom I am engaged and by whom the above process has been in use for some time past, will extend a cordial invitation to the members of this association to vist our Laboratories during their stay in the city where they will find persons ready and willing to explain the apparatus named, as well as all other plans of working in any and all the departments which they may find to be interesting.

NOTES ON THE TREATMENT OF CHRONIC OTORRHŒA.

By W. Thornton Parker, M. D., Acting Assistant Surgeon, U. S. Army.

The specialty of diseases of the ear has reached such an important position, and the literature of the subject has been so ably contributed to by men who have spent a life time in their investigations, that I feel constrained in the first place to apologize for attempting to offer anything on the subject. What I offer is my own experience in my own case for the past fourteen years.

Ten years ago I first consulted a physician for a chronic otorrhœa of the left ear, supposed to be the sequela of an attack of scarlatina at the age of seven years. The physician asked me what I was doing for it and I replied that I was using absorbent cotton to dry the ear two or three times a day, and nothing else. He directed me to continue the same treatment, saying there was nothing better. Some years later I was advised to use injections of warm water followed by insufflations of boracic acid. I pursued this treatment with great success for some months. The syringe used was "Hall's health syringe," which is a siphon arrangement giving a very gentle and regular stream. The metal tubes are, however, objectional in many ways, and in their stead I substituted "Parker's velvet-eyed tubes." These are made of flexible rubber, and fit securely on the ordinary hard rubber ear syringe. They are made by Tieman in three sizes corresponding with numbers 13, 15 and 17, Tieman & Co.'s American scale. These tubes can be introduced into the auditory canal painlessly, and are admirably adapted for cleansing, giving several streams at once. For the injection the water must be at least 100° Fah. Probably nothing is better for use in solution than the boro-glyceride. It should be used in a ten or twenty per cent solution. As far I can ascertain the preparation of boro-glyceride made by Theodore Metcalf of Boston has few if any equals in this country, and certainly no superior. After the injection the ear should be carefully swabbed out with absorbent cotton, which should be borated. To carry the borated cotton into the interior of the auditory canal a fine whalebone probe should be used. The cotton should never be kept long in the ear, for to do so is to invite the danger of taking cold. I have exposed my ear often to a temperature of 40° and 50° Fah. in winter and experienced no pain whatever. Under this treatment, suggested by Dr. Green of Boston, my ear has continued to improve, and for nearly three years no injection or insufflation has been necessary. For the past twelve months nothing but the borated cotton treatment has been used, and when last examined by Prof. Roosa he said the ear was doing well and the perforation of the membrana tympani rapidly healing. I believe this course of treatment will be found successful in the large majority of cases of chronic otorrhœa, and it is offered with considerable confidence to my medical brethren.

Ft. Union, N. M., April 26, 1884.

Society Reports.

CINCINNATI MEDICAL SOCIETY.

Meeting of June 3, 1884.

B. STANTON, M.D., *President.* W. H. M'REYNOLDS, M.D., *Secretary.*

DR. JOHN L. DAVIS presented the following report of a

Case of Pulmonary Abscess With Remarks.

Through the kindness of Dr. M. Cassat I am permitted to report the following interesting case of abscess of the lung in a patient whom, in conjunction with him, I saw on several occasions:

George W., aged nineteen; English; single; of temperate habits; silver-plater; previous health, good. Was first seen by the doctor January 23, 1884, five days after he had been compelled to quit work and take to his bed. He was suffering from dyspnœa and chilly feelings with great prostration. The temperature was 104°; pulse, 126; respirations, 36, shallow and suppressed. Upon physical examination of the chest, percussion revealed absolute flatness, anteriorly, posteriorly and laterally, over the lower half of the right lung and the lower two-thirds of the left. Upon auscultation, nothing but tubular breathing could be heard in these parts of the lungs. The upper parts of both lungs contained large and small moist bronchial rales; and anteriorly, in the upper part of the dull portion of the left lung fine crepitant rales could be heard on both inspiration and expiration. The physical signs and clinical history indicated acute double pneumonitis in the second stage, with probably resolution beginning in the middle third of the left lung. Patient was ordered two grains of quinine every two hours.

January 24, 1884, the next day, the patient was better; he had rested some in the night and breathing was less labored. Temperature, 103°; pulse, 120; respirations, 30. The area of dulness upon percussion was not materially changed; but auscultation clearly revealed commencing resolution of the exudation products in the upper part of the dull area of both lungs. The treatment was continued. But the family becoming dissatisfied, now sent for a physician whom they had employed on previous occasions. And as a result the case was not seen again by us, until almost two months after the illness began. But finally the attending physician gave a very unfavorable prognosis, thereby hastening the employment of his successor. Consequently, March 19, we saw the patient again. He was exceedingly prostrated and depressed and his discomfort was much aggravated by blankets which enveloped him closely from head to heel. Besides having a continuous profuse sweating he was harassed at frequent intervals by fits of coughing, when he would expectorate large quantities—a quart a day his attendants said—of frothy pus streaked with blood. This distressing symptom had existed about a month, and was only slightly relieved by his sitting almost upright in the bed. His temperature was now 100° and his pulse 120. A physical examination of the chest showed that resolution was complete in the right lung and no abnormal indications existed except some scattered large mucous (bronchial) rales. In the left the same condition prevailed, with the exception of a locality three inches in diameter, situated in the outer part of the middle third of this lung, which, upon percussion, gave forth a cavernous resonance; and upon auscultation this area revealed loud bubbling or gurgling rales, heard anteriorly and less distinctly posteriorly upon both inspiration and expiration. This examination was made while the patient was propped up in bed. Afterwards he was asked to lie down, and upon doing so was seized with a most violent fit of coughing which threatened to strangle him. He was then turned upon his face, and thus aided by the force of gravity he succeeded in coughing and vomiting up more than a pint of pus, frothy and slightly streaked with blood. After a few minutes the chest was again examined and percussion clearly marked the cavity in the middle third of the left lung; and this diagnosis was verified by auscultation, which revealed cavernous respiration in this situation, and some large moist rales in the tube above.

The patient was ordered two grains of quinine every two hours, and, as the expectoration was attended with a very offensive odor, a one per cent. solution of carbolic acid was given several times a day; and this latter had the effect of completely removing all the disagreeable character of the expectoration within twelve hours. Within a day or two the patient began to improve; the cough became less distressing and the expectoration less in amount; though for a week or more the cavity continued to fill with pus as often as twice or thrice daily, but this was readily removed by coughing, especially with the head and face downward. The profuse sweating disappeared, the appetite improved and progress became marked.

April 10. Expectoration had practically ceased; temperature, pulse and respirations approximated the normal. Upon percussion and auscultation the cavity was still distinguishable, but less extensive than before. Now, pills of iodoform (three grains) and reduced iron (two grains) were ordered, three a day. Improvement continued and the patient was discharged May 25, cured; and physical examination failed to discover any trace of the former extensive cavity.

The features of interest in this case are first, the fact that recovery should occur after the supervention of a large abscess upon a very extensive double pneumonitis. Pulmonary abscess is always a very grave disease, but under such circumstances as existed in this case the prognosis is as unfavorable as possible.

Therefore, when recovery resulted, it is natural in the second place to consider the treatment which was here successful. In my judgment, the favorable result was due chiefly to quinine, which, besides its recognized supporting power, seems in many cases of pulmonary inflammation to have a direct specific action upon the lungs. And thirdly, in this case we see illustrated the efficacy of carbolic acid in removing the disagreeable odors incident to the degenerative process. This is owing probably to its power of arresting molecular change. Finally, it may be mentioned that the iron and iodoform given late in the course of the disease appeared to be indicated by the anæmia and character of the secretion.

Abscess of the lung due to a primary pulmonary inflammation is rare; it is most commonly a part of the general pyæmic process and is due to infective deposits in the lungs. When dependent upon acute primary inflammation the direct causes may be classed under three heads:

1. Injuries.
2. Gangrene.
3. Pneumonitis.

Abscess following pneumonitis is a rare occurrence, statistics showing that not more than one or two cases in a hundred of pneumonitis are followed by this serious result. It is only in patients whose constitutions are naturally weak, or enfeebled by the protracted and severe course of the the pneumonitis, that abscess is likely to occur. Its development is most frequently characterized by the patient's unaccountable prostration; by chills and irregular fluctuations in the temperature; by the pulse becoming more weak and frequent, and by sweating, which may be profuse. The situation of the abscess in the majority of cases is in the upper half of the lung. This may be accounted for by the fact that pneumonitis in the upper lobes of the lungs is always more serious and dangerous than when situated in the lower lobes, where it more frequently is. And these severer cases are those most likely to be followed by the formation of abscess.

Though pneumonitis affects oftenest the right lung, statistics do not show that either lung is more liable than the other to the formation of abscess. The physical signs, before the evacuation of the pus, often fail to indicate the condition. But when the abscess is large and situated near the surface of the lung toward the chest wall, percussion will reveal the circumscribed area of dulness, and upon auscultation the entire absence of respiratory sound will characterize the part affected.

But a sudden movement or violent effort at coughing may rupture the tissue enclosing the pus and this will be discharged; sometimes into the pleural sac, but most often into a bronchial tube, whence it is readily removed by coughing. The expectoration is yellowish in color, consisting chiefly of pus, mixed with a varying amount of frothy mucus from the bronchial tubes, shreds of broken-down lung tissue and streaks of blood from ruptured vessels. The odor is often excessively offensive and it may be of a gangrenous character.

The discharge of the pus from the abscess changes the physical signs. So, upon percussion, while the cavity is empty, amphoric resonance is present; and auscultation detects cavernous respiration, with perhaps large bubbling rales in the cavity and in some of the bronchial tubes above, indicating the presence still of some of the purulent secretion.

In favorable cases the secretion gradually diminishes in amount, the cavity becomes smaller, both by the approximation of its walls and by the subsequent cicatrization, and finally it becomes altogether obliterated and physical examination of the lung reveals no trace of the former disease; and upon post mortem investigation an irregular seam of cicatricial tissue is the only indication that an abscess once existed.

But on the other hand, in unfavorable cases, the purulent secretion continues profuse, the cavity may still further enlarge and a pyogenic membrane form along its wall. Then the abscess becomes chronic; and though the patient may live several years the discharge is continuous, and death will occur sooner or later from slow asthenia. In other cases the excessive drain upon the system leads to death in a few weeks or more rarely in a few days. In some instances hemorrhage from a ruptured vessel in the cavity leads speedily to a fatal termination.

The prognosis in all cases of abscess as a sequel of pneumonitis is grave. Various authorities state that from sixty to eighty-five per cent. are fatal.

The treatment pursued in the case mentioned, I have given. A further discussion will most fittingly come in at some future time when describing the treatment of pneumonitis and its complications.

DISCUSSION.

Dr. Taylor thought the writer's estimate of the proportion of cases of pneumonia terminating in abscess, from one to two per cent., rather large. Pulmonary abscess is rare. He had met with but two cases in his experience. One of these occurred while he was pathologist at the Cincinnati Hospital and terminated fatally. The autopsy revealed a large gangrenous area. The other came under his care after the patient had begun to improve. The gangrenous odor was still present and the character of the respiration and expectoration, as well as the physical signs, were similar to those in the case just reported by Dr. Davis. He had the same intervals of relief after violent paroxysms of coughing with profuse purulent expectoration. The patient's condition improved and he went to Europe, finally gaining a fair degree of health, but never made a perfect recovery.

The future history of Dr. Davis' case will probably show the same result. The cavity left by an abscess must almost inevitably cause some permanent damage to the lung.

In these cases of pulmonary abscess there are two questions to be considered, diagnosis and treatment. The diagnosis of the case reported this evening was undoubtedly correct. The case was seen early, the history clear and the symptoms pronounced. But in a case occurring in the course of a chronic bronchitis, what the old writers called a putrid bronchitis, the diagnosis is more difficult. The speaker thought more than two grain doses of quinine were needed in the treatment of these cases. He supposed, though it was not mentioned, that the writer gave his patient plenty of stimulants with good nourishing diet.

Dr. Davis remarked, with reference to the frequency of abscess as a sequel of acute lobar pneumonitis, that Huss claimed that it occurs once in fifty or sixty cases; Læennec, in his whole experience, met with but five instances; and Chomel with only three.

In the case described by the doctor no medicines had been given except those mentioned, quinine, carbolic acid, and later pills of iodoform and iron.

Hygienic measures were enforced and as good a diet as practicable, but no stimulants of any kind were given.

Dr. O. D. Norton, Jr., reported the following case of

Hemorrhage of the Urethra.

A.B, male, white, æt. twenty-seven years, single, clerk, contracted gonorrhœa last December, but has had no discharge for some time. Present trouble began about two months ago, when about to have connection with a woman, he felt something give way in his penis and immediately the erection subsided with a flow of blood from the urethra. Early in the morning the speaker found the patient in a house of prostitution, lying on a bed, sleeping off the effects of liquor. The general appearance of the room showed that there had been a profuse hemorrhage. By the side of the bed was a basin half full of blood and the sheets and underclothing appeared to be saturated with it. An examination of the penis showed a clot in the urethra at the meatus. No ecchymosis of the organ, but slight hemorrhage at the time. The patient was directed to pass his water, this was done and after the first flow the stream was clear, but on its cessation a flow of blood followed. This was checked by cold applications to the urethra and perineum, the penis being elevated over the pubes.

An attempt was then made to introduce a soft catheter, with the view of determining any point of tenderness or roughening. This point was found about three inches from the meatus, beyond which it was impossible to pass the catheter. Upon its withdrawal a free flow of blood followed, this was stopped as before. The cold applications were continued and the patient allowed to sleep off the effects of his liquor.

Two days afterwards the patient presented himself at the speaker's office, saying he had had no return of the bleeding until the night previous, when, during an erection, a profuse hemorrhage occurred. Bromide potassium was ordered with a light diet, abstinence from all liquors and a sponge bath on retiring.

Three days afterwards twice during the day hemorrhage followed urination and was controlled with difficulty by cold. His underwear gave evidence of considerable loss of blood. He was ordered to bed and the same treatment continued. For several days thereafter he had but one recurrence of the hemorrhage and that was at night during priapism. The bromide was increased and a wet towel directed to be tied around the waist at night. He is still under treatment, but has had no return of the bleeding.

Gross, in his work on the urinary organs, describes hemorrhage of the urethra, which, he says, although not very common, is very alarming to the patient. It is either spontaneous or traumatic. In this case it was probably of traumatic origin, as indicated by the previous history of gonorrhœa. The case is of interest on account of the large amount of blood lost.

DISCUSSION.

Dr. John L. Davis referred to a case, which came under his observation at the Cincinnati Hospital, as illustrative of the excessive hemorrhage which sometimes occurs from the urethra. The patient had purposely allowed a window sash to fall on his penis for the relief of chordee. The result was rupture and profuse hemorrhage which ice and other means failed to control until compression by a bandage on a large steel sound in the urethra was resorted to.

Dr. Thompson related a case of a man who was brought to the Cincinnati Hospital for retention of urine. The man was drunk and his bladder distended. There was no obstacle to the introduction of the catheter except the man's resistance caused by his drunkenness. The catheter easily entered the bladder, but the urine did not flow; supposing the instrument to be clogged, a bougie was passed, while it was retained, bloody urine flowed awhile and stopped. The catheter was again cleared by the bougie with the same result. This was repeated until the bladder was pretty well emptied. From the clotty appearance of the blood discharged and the difficulty of keeping up the flow through the catheter while the bladder was so much distended, it was clear that the distension was caused by coagula chiefly if not altogether. During the night the speaker was called to this patient and found some bleeding with distension of the bladder as at first. The same treatment was adopted and about a pint of blood withdrawn.

During the following three days the bleeding continued; but not to any alarming extent. The urine had to be drawn with a catheter and clots plugged the instrument every time. Ice and ergot were used and after the third day the trouble ceased.

Dr. Taylor said those of us who have been in the service some years will remember how frequently we formerly met with post partum uterine hemorrhage. Latterly it has been much less frequent, owing to the different mode of proceeding with regard th the delivery of the placenta.

During the past week the speaker had a case which was an unpleasant reminder of the old times. The patient was a woman of a very impatient and irritable temper, very intolerant of pain. Her labor was very tedious and she was restless and constantly railing at every one connected with the case, giving no heed to advice in regard to her comfort and safety in delivery. Toward the latter part of labor the pains became inefficient and the speaker gave her a whiff, not enough to produce unconsciousness, of chloroform and ether, and applied the forceps. Delivery was easily effected and the placenta removed without delay. The uterus contracted and safety seemed to be assured. Half a drachm of fluid extract ergot was given and in three-quarters of an hour, as the speaker was preparing to leave, he was arrested by her crying out in pain and sighing. In violation of positive orders she had turned on her side and he found the uterus distended, reaching the umbilicus, and the patient pulseless. She was turned on her back and revived somewhat. The hand was introduced into the uterus with great resistance on her part and the clots removed. Two hypodermic injections of ergot were given and the uterus contracted somewhat but not satisfactorily. A large injection of hot water produced a further but still insufficient and not permanent contraction. An injection of persulphate of iron was then thrown into the uterus and the hemorrhage arrested. This was the only time in the past ten years that the speaker had used the persulphate of iron for this purpose.

On Saturday night last (May 31st) she got up and changed her clothing because it was very warm, and her garments becoming saturated with perspiration made her uncomfortable. The next day she had a rigor, her pulse went up to 130 and was soft, temperature between 104° and 105° F. Under the use of salicylate of soda the temperature was reduced four degrees. At present (June 3d) the temperature is 102° and she is taking some nourishment. Her condition is somewhat improved but recovery is by no means certain.

MILK PORRIDGE, well cooked, is a better general diet than either raw milk—now so much in fashion — or any meat broth. The previous coagulation of the casein lightens the work of the stomach.

OHIO STATE MEDICAL SOCIETY.

Thirty-Ninth Annual Meeting.

FIRST DAY.—JUNE 10.

The annual meeting of the Society opened on Tuesday afternoon at 2 o'clock, at Columbus, O., in Lyndon Hall. There was a large representation of physicians from various parts of the State. Dr. C. P. Landon, the President of the Association, was in the chair. The work of the afternoon consisted in receiving reports of the various committees and was of a routine nature.

Rev. Col. Anderson, of the High Street Congregational Church, opened the session with prayer, after which the President, Dr. Landon, read his address to the Society.

The chairman of the committee of arrangements announced that they had adopted the plan of holding a special meeting in the evening to consider the board of health bills and other matters demanding legislative consideration.

Several vacancies existing in the committees they were filled. Dr. Reeve, of Dayton, was appointed on the finance committee in place of Dr. Davis, of Dayton, deceased. Drs. Haldermann, of Columbus; Sweeny, of Marion, and Sherman, of Mansfield, were already members of the committee and continue over. Dr. Reed, of Hamilton, was appointed on the committee on admissions in place of Dr. W. H. Mussey, deceased; Dr. Quinn in place of Dr. N. H. Sidwell, of Wilmington, and Dr. Schueller, of Columbus, in place of Dr. Sherman, of Mansfield. The committee on ethics was arranged as follows: Dr, Nash, of Columbus; Dr. Hyatt, of Delaware; Dr. Scarff, of Bellefontaine; Dr. Sharp, of London, and Dr. Drake, of Lebanon.

The Secretary of the Society, Dr. Collamore, presented his annual report. He announced that the following societies, auxiliary to the State association, had abandoned their organizations: Athens, Morgan and Washington County Medical Associations, Belmont County Medical Society, Cleveland Academy of Medicine, Columbus Academy of Medicine, Columbus Pathological Society, Delaware Medical Society, Delaware Medical Institute, Drake Medical Society, Guernsey County Medical Society, Hamilton County Medical Society, Hardin County Medical Society, Lancaster Medical Institute, Medico-Chirurgical Society of Northeastern Ohio, Medina County Medical Lyceum, Medical Association of Adams, Brown and Clermont Counties, Preble County Medical Putnam County Medical Society, Richland County Medical and Surgical Societies, Scioto County Medical Society, Union Medical Society of Alliance, Zanesville Academy of Medicine. It was recommended and decided to drop these organizations from the list of auxiliaries.

The Secretary also reported that the following members have died since 1882: W. B. Carson, Bucyrus; John Davis, Dayton; J. C. Hubbard, Ashtabula; J. O. Kemp, Dayton; A. G. Leland, Trumbull; A. C. McLaughlin, Tremont City; J. A. McFarland, Tiffin; H. Lensman, Tremont City; N. H. Sidwell, Wilmington; W. H. Mussey, Cincinnati, and Benjamin Tappan, Steubenville. The death of honorary members, not previously noted, are: H.H. Childs, Pittsfield, Mass.; G. S. B. Hempstead, Portsmouth; J. Knight, New Haven, Conn.; Willard Parker, New York City, and L. W. Moe, Ottawa.

The existence of the Allen County, the Green County, and the Hocking Valley Medical Societies is in doubt, as catalogues have not been received for two years.

At this session the following applicants were recommended by the committee on admissions and the report was adopted: Chas. R. Greenleaf, of Columbus Barracks; F. S. Pomeroy, Montville, Geauga County; H. Z. Gill, Cleveland; T. H. Brannon, Canal Dover; S. S. Rickets, Columbus; H. H. Zeigler, Ayresville; A. A. Davis, Mineral Point; George G. Baker, Akron; J. C. M. Floyd, Steubenville; H. H. Pennell, Nashville; O. A. Dunnick, Chardon; A. H. Stephens, National Military Home; D. H. Richardson and M. A. Koogler, DeGraff; T. B. Richards, Lake; Paster H. Barb, Bing Hill; James Anderson, Olden; James F. Blair, Marshall.

Dr. B. M. Sharp, of Sydney, and Dr. Chas. S. Cowen, of Hardin, had filed their applications with the committee for membership, but the report was adverse, owing to the fact that in their application they had neglected to state what local societies they are members of. There were no objections to the gentlemen, but it is a rule of the Society that an applicant for admission to the State Society must first become a member of some local medical organization.

Preliminary to the discussion of the resolution of Dr. Sharp, on "Medical Legislation," a committee of five was appointed and the following resolution introduced:

WHEREAS, There are now pending in the two Houses of the Legislature of Ohio different bills having for their purpose the establishment of State boards of health and medical examiners; therefore, be it

Resolved, That a committee of five be appointed to whom these several bills shall be committed for revision, and who shall report such revised bill for adoption by this society on Wednesday morning.

DR. Dunlap, of Springfield, as delegate to the American Medical Association, spoke upon what he had seen and heard at the recent session of that body, but dwelling more particularly upon the subject of ovariotomy.

He was followed by Dr. Reeve, of Dayton, upon the same subject. Dr. Sutton, of Pittsburg, was present. and upon invitation, spoke upon the same subject.

The afternoon session was closed by a paper on "The Races," by Dr. R. Fraley Wark, of Ontario.

The evening session was devoted to the subject of medical legislation, and discussion was opened by Dr. Sharp, of London, with a paper in support of the resolution favoring the appointment of a State board of examiners.

Dr. Herrick, of Cleveland, thought the question of the survival of the fittest the proper one to answer, and not to ask restrictive legislation.

Dr. J. H. Hamilton, of Columbus, thought that the legislation contemplated in the resolution might advance the standard for a time, but that the people would soon rise up and demand to employ whom they wished as medical adviser. Further than this he did not think that the fact of a man being a medical teacher should be a bar to his being one of the board of examiners.

Dr. Sherman, of Kent, spoke in behalf of his bill, which was defeated, reconsidered, and is now in the hands of the committee, and which places the licensing power in the hands of a board of three in each congressional district.

Dr. X. C. Scott, of Cleveland, spoke in favor of the bill which bears his name, and called attention to the defects of the Sherman bill. He desired that the licensing power be placed in the hands of nine members, to whom all desiring to practice in the State must come.

Adjourned until 9 A.M., Wednesday.

SECOND DAY.—JUNE 11.

The principal business of the morning session was the consideration of the resolution presented by Dr. Sharp, of London, as follows.

Resolved, that the public good and the higher interests of the medical profession would be advanced by the establishment of a State board of medical examiners; that such board shall be independent of all medical schools, and be empowered to examine and pass upon the moral fitness and literary and medical attainments of all applicants for admission to the practice of medicine, and to grant license to practice medicine in the State of Ohio to such only as shall have passed a satisfactory examination before said board; that medical schools shall continue their functions of teaching and conferring degrees of M.D. only, with no powers whatever to grant licenses to their graduates admitting them to the practice of medicine.

This resolution brought forth a hot debate, bnt it was finally adopted by a vote of 56 to 21.

The report of the special committee appointed the day before to draft a bill to be offered as a substitute for the bills of Dr. Sherman, of Kent, and Dr. Scott, of Cleveland, was then read by Dr. Sharp. The substitute provided for a State board of examiners, to be composed of fifteen men selected by the Society, from whom nine shall be appointed by the Governor, whose duty it shall be to examine all applicants for authority to practice in the State, but none of these gentlemen shall have any connection with a medical college. This last feature brought forth a lively discussion between those associated with colleges and those not connected with such institutions. Those taking part in the discussion were Dr. Baldwin, Columbus; Dr. Reuben A. Vance, Cleveland; Dr. Thadeus A. Reamy, Cincinnati; Dr. Sherman, Kent; Dr. Weaver, Dayton, and Dr. Sharp.

Dr. Reamy thought the board of examiners should first be examined in the capital square, in public, by an oral examination, and he offered the following amendment to the report of the committee:

"Provided that no man shall serve on said board until he had won his position by a competitive examination made by a committee appointed by this society, said examination to be conducted orally and in public at the capital of the state."

This amendment was the signal for a lively discussion and the whole matter was finally laid on the table, while fully a dozen members were on the floor trying to have the chair recognize them.

The treasurer, Dr. T. W. Jones of this city, made his annual report, there being a balance on hand June 11, 1884, of $800.82. As librarian Dr. Jones reported 127 volumes of society transactions on hand, covering the period from 1859 to 1880 inclusive, besides fifty volumes of the minutes of other societies.

Dr. Reed, of the committee on admissions, made a final report on applications, for membership. Of those who applied last year the following were recommended for membership: Charles Hinzleman, Cleveland; D. A. Scott, Akron; P. M. Gibson, Portsmouth; O. W. Weeks, Marion; F. W. Thomas, Marion; J. F. Tracy, Milbury; J. H. L: Loss, Lancaster; W. C. Hunt, Warren; E. T. Wells, Minster; E. B. Henord, Kenton; S. M. Rapp, Warren; J. E. West, St. Clairsville; J. J. King, Berry Hill; J. M. Musgrove, Urbana; C. C. Hill, Levering; S. S. Kriger, Lebanon; M. M. Bauer, Lake. Of new applicants the following were recommended for admission: G. M. Goodhue. Dayton; I. W. McConnell, Marseilles; J. E. Groves, Uhrichsville; Frank Warner, Columbus; J. F. Kirkpatrick, Sedalia; W. G. Anderson, Columbus; J. M. Smith, New Philadelphia; S. M. Telfair, Bloomington; D. D. Wary, Jr., Wilmington; William Storey, Castalia; J. Coldam, Toledo; J. P. Grenwell, Damascus; J. O. McDowell, Delaware, J. H. Hughes, Delaware. The recommendations of the committee were followed.

Dr. Kinsman next read a paper on "Tuberculosis" which elecited some discussion and it was soon apparent that many of the members are not ready to accept the *Bacillus Tuberculosis* theory.

Two years ago, some charges were made in a newspaper against Dr. Baldwin's official record as secretary of the association, and he at this time asks an investigation.

One of the most important matters before the society was the charges against Dr. E. C. Lewis of Canal Dover, of unprofessional conduct. The committee on ethics found that Dr. Lewis attempted to procure an insurance in his name on the life of Mrs. Edwards of New Philadelphia, O., in the United Brethren Life association of Philadelphia, although she was at that time under his care, fatally sick with cancer of the uterus, and recommended his expulsion from the society. The finding of the committee was sustained.

After the delivery of the annual address by the president, the society proceeded to the election of officers for the ensuing year. Drs. J. C. Reeve of Dayton and E. Sinnet of Granville were put in nomination for the presidency. Dr. Reeve was elected by a vote of 89 to 33. The vice presidents chosen were Drs. Baldwin of Columbus, Davis of Marion, Merriman of Painesville and Pratt of Mt. Sterling. Dr. Jones of Columbus, treasurer, and Homer of Toledo, secretary, were re-elected by a viva voce vote. Dr. Harvey Reed was elected to the vacancy in the committee on ethics, Dr. Conklin of Dayton to the committee on publication, and Dr. Herrick of Cleveland to the committee on legislation.

The two vacancies in the committe on admissions were filled by Dr. Reed for five years, and by Dr. Fowler for four years. Dr. C. E. Brush of Zanesville was placed upon the finance committee. Dr. Beech offered a resolution of sympathy for Dr. John Thompson of Columbus, who is sick and has slight hope of recovery.

In a neat little speech Dr. Conklin asked that the next annual meeting be held in Dayton. The motion was carried by a unanimous vote.

Dr. Scott of Cleveland next read a paper on "Impurities in water." The paper was discussed at some length.

Dr. Forbes of Toledo next reported ten cases of the radical operation for empyema with results, and in the discussion which followed Dr. Ransohoff reported three. Dr. Vance of Cleveland also entered into the discussion.

The next paper read was by Dr. Morrow Beech of London on "Changes in disease types in central Ohio."

The society now adjourned until Thursday at 9 a. m.

The members were banqueted Wednesbay evening at the residences of Dr. Hamilton and Dr. Loving.

THIRD DAY.—JUNE 12.

Some of the members who most bitterly opposed the report of the committee on Medical Legislation having taken their departure, the friends of the measure moved that the report which had been laid upon the table the day before be taken up, and as a result the amendment of Dr Reamy was stricken out, and the original resolution and the form of the law which they wish to present to the legislature for passage was carried unanimously.

The committee on finance reported that the conduct of Dr Baldwin while secretary of the association had been entirely satisfactory.

The balance remaining to the credit of the society is $800·82. The annnal assessment was fixed at one dollar. It recommended that $50 be paid the chairman of the committee on publication for services rendered.

Reading of papers was now made the order of the day.

Dr. Allen of Columbus read a paper on "The Pupils as a Factor in Diagnosis." It was referred, as were all the others, to the committee on publication.

Dr. Harvey Reed of Mansfield next read a paper on "Irritation of the Prostate."

Dr. Craig of Mansfield read one on the "Treatment of Varicose Veins."

Two auxiliary societies were next received, the Gallia County Medical Society, and the Hardin County Medical Association.

At the afternoon session Dr. Ransohoff read a paper on "Sanguineous Cysts of the neck."

Dr. Beach of London read a "Report on Milk-Sickness."

Dr. Reeve of Dayton read a paper on "Historical and Critical Notes on the Management of the Third Stage of Labor."

Dr. Conklin read a paper on "Congenital Phimosis," Dr. Dandridge one on "Foreign Bodies in the Urethra," and Dr. Loving of Columbus one on "Unusual Manifestations of Malarial Poisoning."

After a little further routine business, the association adjourned to meet in Dayton on the first Wednesday in June 1885.

CHLORAL-QUININE. — A compound of quinine with chloral hydrate has been made by Dr. Mazzara by adding the chloral to an equivalent quantity of quinine dissolved in chloroform. By evaporating the solution and redissolving the residue in ether, the new compound may be obtained in warty crystals. It is said to be volatile at 149° C., and gives fluorescent solutions with acids.—*Canadian Pharm. Journal.*

THE CINCINNATI
LANCET AND CLINIC
A Weekly Journal of
MEDICINE AND SURGERY
ISSUED EVERY SATURDAY.

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Cincinnati, June 14, 1884.

The Week.

IS CONVICTION FOR ABORTION POSSIBLE IN OHIO?—The editor of the *Columbus Medical Journal* asks this question and narrates in the last issue three cases that have recently been tried in Columbus for this crime, and in which a verdict of acquittal was rendered in each case, although the guilt of the parties seemed to be without doubt, and to justify the answer that it is not possible to convict a person guilty of the crime of abortion in the State of Ohio.

All of which reminds us of the ways of the courts in Cincinnati, until a little reflex back-action business was instituted on the part of the people that has had a wonderful result in its effect on our legal tribunals, so that we are at this time justified in saying to the *Columbus Medical Journal* that a doctor of the baser sort has recently been convicted in Cincinnati of the crime of committing abortion, and has actually been sentenced to a long term of imprisonment in the penitentiary, where he is now doing the State service.

Improbable hypotheses and far-fetched technicalities are less frequent than before our episode and do not count for near so much as formerly, which justifies us in saying that, in at least one corner of the State of Ohio, it is possible to convict for the crime of committing abortion.

THE INDIANA STATE MEDICAL SOCIETY convened at Indianapolis on the 10th inst. The meeting was largely attended and a number of excellent papers were read and discussed.

Dr. D. A. Morse, of "The Oxford Retreat," was introduced to the Society and briefly addressed the members on the subject of "Medical Legislation," its importance, and the causes that operated in the Ohio Legislature against bills that were introduced in the interest of the medical profession.

The following officers were elected: President, J. H. Woodburn, Indianapolis; Vice-President, J. S. Gregg, Fort Wayne; Secretary, E. S. Elder, Indianapolis; Assistant Secretary, W. H. Lopp, Columbus; Treasurer, G. W. H. Kemper, Muncie.

Dr. Miller, of Paris, Illinois, read a paper with especial reference to the work of the Illinois Medical Association.

Dr. Mary F. Thomas, of Richmond, Ind., reported on hospitals for insane women where women had been employed. She reported that these reports were encouraging, and the expression of those immediately connected with them so satisfactory that it merits a continuance of the practice so auspiciously begun, and as the best interests of insane women ought to be the object in view, it is encouraging to know that the investigation will result in the amelioration of the condition of this unfortunate class. It was recommended that further efforts be made in securing the appointment of women physicians for the three new asylums soon to be built.

TO DISGUISE THE TASTE OF IODIDE OF POTASH.—M. Gérard Lagüe (*Lyon Méd.*), states that syrup of gooseberry will completely disguise the taste of iodide of potash.

Selections.

MEDICINE.

PREVENTION OF ANTHRAX.—We are in want of a good distinctive term to apply to the disease which has been known in this country as malignant pustule, splenic fever and more recently anthrax, and in France as charbon, and in Germany as milzbrand. Malignant pustule is unsatisfactory, as it refers only to the external lesion, which is not always present; splenic fever is objectionable for a similar reason, and charbon appears to be a merely trivial name applied on account of the rapid sloughing which gives a black color to the center of the external lesion. Anthrax is the most convenient term, especially as the bacillus found in the disease bears that name; the only objection to it being that it has already been appropriated for carbuncle. In spite of this objection, however, anthrax, is the term which should come into use, and we notice that Dr. George Buchanan, the medical officer to the Local Government Board, uses the term constantly. His report for the year 1882, which has just been issued, contains two important contributions on anthrax, the one by Mr. John Spear on its occurrence among persons engaged in the London hide and skin trades; the other by Dr. Klein on the behavior of the bacillus anthracis under various conditions.

Mr. Spear's report shows that anthrax, or malignant pustule, or charbon, occurs but rarely in London, and is entirely confined to persons engaged in handling foreign hides; the large majority of cases which he has been able to investigate at home occurred in wharf-laborers, in men engaged in sorting the hides, or in tanners. The experience of London has differed from that of Bradford in the circumstance that "internal anthrax," or anthrax without external lesion, is very rare. Thus out of thirty-two cases of malignant pustule, the external lesion of anthrax was present in twenty-three; the disease also being less fatal and more amenable to treatment. One of the largest firms of hide dealers have issued to their work-people a description of the disease, with plain instructions. As to the prevention of the disease by regulation of the trade, it must first be noticed that in the classification of hides for trade purposes at the port of export, the "dead" hides could easily be kept apart if traders were honest. The infection lies chiefly in these dead hides. If an organization could be effected by means of which this country could be warned of the existence of the disease in countries from which hides are exported, Mr. Spear thinks that the importation of diseased hides might either be prohibited, or placed under regulations that would minimize the present dangers.

Dr. Klein's "Further report on the relation of pathogenic to septic bacteria, as illustrated by observations on bacillus anthracis," will be read with a great deal of interest. It contains a somewhat severe criticism of the views put forward by M. Pasteur in 1881, and embodied in his address before the International Medical Congress that year. That Pasteur has succeeded in preparing a vaccine is not questioned, but it is shown that what is now issued under that name falls very short of a true vaccine. In his last report Dr. Klein had published some observations, the full significance of which can now be better perceived. He described last year, it may be remembered, the degeneration which the bacillus anthracis undergoes in liquid artificial cultivations. After the whole of the pabulum suitable to the needs of the particular bacillus was exhausted, he found that the fluid, when the degeneration was very far advanced, but not complete, was incapable of infecting white mice, though capable of producing the disease in a fatal form in rabbits and guinea-pigs. It seemed, in fact, that the white mice were capable of resisting a small dose of the poison, or to kill the bacilli if introduced in small numbers. Pasteur had been able to obtain a vaccine by cultivating the bacilli at high temperatures under certain conditions. These conditions have not been made public, and it might have been supposed that the mice had been "vaccinated," to use M. Pasteur's term, by the fluid used by Dr. Klein. Such however was not the case, as these mice were killed at once when inoculated with fresh cultivations. In his present report Dr. Klein has extended his investigations to sheep, and has found that a sheep can resist a small dose of an old degenerating cultivation of the bacillus, but succumbs to a larger dose. This is explained on the supposition that if a small quantity of the fluid be injected the the chances are great against its containing many active bacilli, but with a larger quantity the reverse holds good. Having failed to discover the conditions under which the vaccine fluid could be produced, some "vaccin charboneux" was obtained from M. Pasteur's business agent in Paris. According to the printed directions, the premiere vaccin was inoculated first, and after a fortnight the deuxieme was used, and then the animals were supposed to have immunity against any further inoculation with anthrax. No constitutional disturbance is observable in the animals during or after the experiment according to Pasteur. Neither of these statements applied to the fluid obtained from his agent, M. Bontroux. The animals used were mice, guinea-pigs and sheep, and upon none was immunity conferred. Some were unaffected by the inoculation, some were killed, and a few were slightly indisposed. It was also ascertained that the vaccin was contaminated by micrococci and foreign bacilli, and it is not unnatural to conclude that it had been carelessly prepared. It is very much to be regretted that Pasteur has not made public the method in which the vaccin ought to be prepared, and it is contrary to the spirit of science to reduce so beneficent a discovery to the rank of a secret remedy. "It cannot but be inferred," writes Dr. Buchanan in his report to the Local Government Board, "that the substances issued from M. Pasteur's laboratory are extremely uncertain in quality. Probably the conditions for the manufacture of a true-attenuated anthrax virus are numerous, and not understood even by Pasteur himself."

The general result arrived at by Dr. Klein, in his experiments on sheep, was the same as in the rodents—with, however, one remarkable exception, the full significance of which it is as yet impossible to gauge. He found that sheep, inoculated with the fresh blood of a mouse which had died of anthrax, showed a rise of temperature for three days, but did not go off their feed, and quite recovered; these sheep were not in the least affected when subsequently inoculated with a cultivation of the bacillus, which contained spores, and was therefore most virulent. "Thus, we see that mouse's anthrax blood, while affecting constitutionally the sheep, did not produce fatal effects, and, at the same time, furnished them with immunity against further inoculation with virulent material."

Upon another point, Dr. Klein has arrived at results of very considerable interest, if of less novelty; he has fully confirmed the statement of Gerlach and Bollinger, that putrefaction destroyed the infective power of the blood and organs of an animal dead of anthrax. This fact seems to depend upon the inability of the bacillus to go on to the development of spores, except when growing in situations to which the air had free access. For instance, Dr. Klein found that, when cultivated in pork broth, in test-tubes, the bacillus did not, as a rule, form spores; but after flourishing for a time, underwent degeneration, so that the fluid eventually became sterile; where exceptionally the bacillus, in its growth, reached the surface of the fluid, spores would form; in cultivations made not in the depths of a fluid, but on the surface of gelatine, the formation of spores went on. Dr. Klein finds that, if the body of an animal dead of anthrax be not opened after death, the changes which take place in the bacillus are purely degenerative, and the body speedily loses the power of communicating the disease; if the body be opened, and access then afforded to the air, the infective power is longer retained, owing to the production of spores. Dr. Klein, therefore, concludes that M. Pasteur was mistaken in supposing that, in animals dead of anthrax and buried, the bacillus retained its infective powers for years; and believes, on the contrary, that this power is quickly lost, owing to the complete degeneration of the bacillus. This view of Dr. Klein is in accord with the observations of Koch.—*British Medical Journal.*

COMPARATIVE ACTION OF THE VARIOUS ALKALOIDS OF ACONITE ON THE HEART.—Torsellini (*Boll. delle Sieuze Med. di Sienna*, and *Gazz. Med. Ital. Prov. Venete*, March 1) has very carefully studied the action of these alkaloids with special regard to their action on the heart, and publishes the result of his researches in the *Boll. delle Scienzi Med. di Sienna.* His experiments were made on the hearts of frogs and toads, either after separation from the body or with the organ *in situ* but exposed by dissection. After describing minutely the technique of his experiments, he gives the results obtained; 1. with the heart removed from the body; 2. with the heart *in situ.* 1. with the heart removed, nitrate of aconitin causes a slight retardation of the heart-beats; it displays a certain action on the instensity of the cardiac systole, some contractions being scarcely marked, alternating with others of normal intensity; it does not disturb the rhythm as regards the succession of the contractions. Nitrate of napellin does not cause retardation of the cardiac beats; it induces a diminution in the systolic rise and irregularity of the rhythm. Nitrate of lycoctonin causes, with an action contrary to that of aconitin, a slight increase in the number of cardiac contractions; again, contrary to aconitin and napellin, it gives rise to a slight increase in the systolic elevation, and does not in any way disturb the regularity of the cardiac contraction; the cardiac contractions rendered irregular by napellin are again made regular by a current of serum containing nitrate of lycoctonin, and this fact he repeatedly confirmed, ascertaining at the same time that this regularity was obtained, when it did not follow the prolonged passage through the heart of normal serum, that is, not containing lycoctonin. The action of aconitic acid on the heart is quickly and evidently paralysing, and this even with very small doses, which were not sufficient to acidify the liquid. It is here worthy of note that sometimes after this paralysing effect of aconitic acid was manifest, the heart again contracted after passing through it for some time a current of simple serum; and when this did not happen, the contractions certainly returned when nitrate of lycoctonin was added to the serum. 2. As to the results obtained when the heart was left *in situ*, nitrate of aconitin causes a marked diminution in the number of cardiac contractions, very slight but transitory diminution of the systolic elevation of the tracing, and no irregularity of the rhythm. Nitrate of napellin causes the cardiac rhythm to be irregular, renders the systolic elevation of the tracing smaller, and increases the number of contractions. Nitrate of lycocton, contrary to the other two alkaloids, does not in the least disturb the heart; and the tracing appears most regular, with slight increase of the systolic rise. From these experiments it results, then, that the various alkaloids of aconite have different action on the heart, which sometimes seem to be antagonistic. This fact explains the great uncertainty of the galenical preparations of aconite, which must vary in action according as one or the other alkaloid predominates, and accounts for the employment of aconite in many diseases with its susequent discredit and abandonment. Torsellini thinks the time has come for a more exact clinical study, now that the chemistry of the plant and its alkaloids is better understood. The great utility of aconite, affirmed by some observers and denied by others, in certain affections of the heart, especially in certain neuralgiæ—for example, angina pectoris, for which Gubler recommends aconite—may well be the consequence of the employment of drugs of different composition: in one preparation napellin, for instance, may have predominated, in another lycocton—alkaloids which have now been shown to have a contrary or even antagonistic action.—*London Medical Record.*

SALICYLYIC ACID IN CEREBRO-SPINAL MENINGITIS.—Dr. D. C. Ramsey, in an article in *St. Louis Courier of Medicine* concludes as follows:

1. The analogy existing between rheumatism and cerebro-spinal meningitis would suggest and be good reason for the use of similar remedies in both diseases.

2. Salicylic acid being the best remedy, almost a specific in the treatment of acute articular rheumatism, would be a strong indication for its use in cerebro-spinal meningitis.

3. It produces marked reduction in the temperature; the fever being thus lowered, the tissue destruction and the onward progress of the inflammation is checked, thereby giving the patient rest.

4. It controls the intensely annoying metastatic pains of head, back, elbow, and knee, giving the patient ease.

5. It exerts a direct influence for good over the inflammation itself, and can be taken in frequent large doses without bad effect; having given a boy fifteen years of age half-drachm doses every four hours for three or four days, with the only result of a great benefit in all the symptoms connected with the disease is, I think, conclusive evidence of its harmlessness.

6. Its good effects are soon apparent, and it doos not interfere with the use of other measures of relief, as ice, blisters, etc.

7. The best mode of using the remedy is to administer large doses frequently. For adults begin on doses of fifteen grains, repeated every two hours, and increase the dose as may be found necessary to obtain the desired effect, to ℈ ij., at intervals of two hours, if need be. When the disease is under control, which will be determined by the reduction in temperature, relief of pain, and placid countenance, decrease the

dose, give at longer intervals, but still continue the use of it in small doses as long as the least symptom is present indicative of the disease.

Having never read or heard of salicylic acid being used in the treatment of cerebro-spinal meningitis, and my good success with its use in this fearful epidemic being afterwards verified by Dr. J. B. Weever, of this place, I hope to induce others to give this remedy a trial, and by so doing I think they will be enabled to see very happy effects from its use, and thereby be highly gratified with the results.—*Canada Lancet.*

VACCINO-SYPHILIS EXPERIMENTS.—With a view to settle for himself the vexed question of whether vaccine-lymph taken from a syphilitic person, if unmixed with the blood of the vaccinifer, does not contain the syphilitic virus, and is incapable of im parting syphilis by inoculation, Dr. Cory made at intervals four separate experiments on himself with lymph derived from obviously syphilitic children. The fourth experiment was successful, and Dr. Cory had to endure, in the cause of science, all the pains and penalties of syphilitic inoculation. His experiments conclusively prove, in the opinion of the committee, which consisted of Dr. Bristowe, Dr. Humphry, Dr. Hutchinson and Dr. Ballard, "that it is possible for syphilis to be communicated in vaccination from a vaccine-vesicle on a syphilitic person, notwithstanding that the operation be performed with the utmost care to avoid the admixture of blood." this is an absolutely new departure from the hitherto accepted view of English writers that vaccine lymph could by itself propagate nothing but vaccina, from however diseased a subject the lymph might be derived.

It is right to state that the infants from whom Dr. Cory took lymph for his personal vaccination were in all cases but one, which was unsuccessful, not suffering from hereditary disease in a latent form, but were infants in whom active symptoms were unmistakably present, as shown by cutaneous eruption, snuffles, mucous tubercles, and ulcerations. Out of the four children in question, only one was proven to be capable of imparting syphilis by the lymph taken from its vaccine-vesicle. These infants were all in such an obvious condition of syphilitic disease as would certainly have precluded their use as vaccinifers by even an inconsiderate and reckless vaccinator. Indeed, they were selected by Dr. Cory for his self vaccination because they were unquestionable syphilitic cases.

Probably it is unnecessary to say, concerning this history, that its counterpart is not likely to be found in the annals of any vaccination station or surgery in this country. But abroad, where vaccination is more carelessly performed, and is apt to degenerate into an affair of midwives, its warnings may, perhaps, be not altogether unneeded. The lymph of a vaccine-vesicle upon an actively syphilitic child may, it would appear (though under limited conditions that remain obscure), contain the virus of syphilis, even where there is no recognized admixture with the lymph of matters foreign to it. But, as we have indicated, it was needful for the purpose of Dr. Cory's experiment that he should deliberately infringe rules which habitually guide him, and as they guide other people, in the practice of vaccination. He had to take, and he did take, intentionally, lymph from children with strongly marked manifestations of syphilis, one of which manifestations was a pronounced skin disease, and this abandonment of rules would seem to have been the essence of his success in transmitting syphilis.

Irrespectively altogether of the question whether there was any risk of the transmission of syphilis in the act of vaccination, except through the most culpable incompetence or misconduct of the vaccinator, it has in this country always been laid down as a fundamental rule not to use the lymph of an unhealthy person, whatever the nature of the ill health, for the vaccination of others. The instructions of the Local Government Board require the vaccinator to "take lymph only from persons who are in good health, and to always carefully examine the subject as to any existing skin disease, and especially as to any signs of hereditary syphilis." Dr. Cory's result does not, therefore, give any new rule for the guidance of the practitioner. The existing obligations on the vaccinator remain neither weakened nor strengthened, and the result of Dr. Cory's experiment, in which the ordinary rules of practice were necessarily disregarded, does not in the least affect the conclusion, derived from long-continued experience of properly conducted vaccination, that the observance of the recognized rule is, in practice, a sufficient safeguard against the transmission of syphilis.—*British Med. Journal.*

New Remedies for Psoriasis.—During the last few years some real progress has been made in the local treatment of skin diseases. Among the new remedies which have come into use, chrysophanic acid has a conspicuous place. Its effect in curing psoriasis is undoubted, and if it is not more universally employed it is more on account of the inconveniences attending its use than from any doubt of its efficacy. Several ingenious methods have been introduced to remedy these inconveniences. Pick recommended a mixture of gelatine and chrysophanic acid in different proportions, and the method has now been introduced to the profession for some time.

Auspitz has lately conceived the idea of using "traumaticin" instead of gelatine as an excipient for chrysophanic acid, traumaticin being a solution of one part of purified gutta-percha in ten parts of chloroform. This preparation adheres closely to the skin and remains from two to three days without change. Gelatine on the contrary becomes detached within several days by the rubbing of the clothes or the movements of the limbs. Traumaticin forms a much thinner and more delicate pellicle than either collodion or gelatine, and is more easily borne. Applications of the ten per cent solution have never provoked irritation, even when applied to considerable surfaces, either in children or adults. As the chloroform evaporates slowly and the gutta-percha only becomes hard very slowly, it is easy whilst making an application to rub it well in on a number of patches. By means of this rubbing the scales can be removed, and the chrysophanic acid applied directly to the bare and bleeding surfaces.

The method of Auspitz is carried out in this manner. After the scales have been removed by means of a bath and the application of soap, all the patches are dabbed and rubbed with a brush steeped in a mixture of the ten per cent solution. If the affection be not extensive the application is renewed every day, but if it occupy a large surface it is renewed every two or three days. A soap bath is prescribed if the scales be in considerable quantity; if in moderate quantity, soap lotions are sufficient. After one or two rubbings many of the patches appear flat, and in general the scales persist only on the borders of the patches. After two, or at most a dozen applications, according to the extent and intensity of the psoriasis, the infiltration and scales disappear, and in their places are found white patches surrounded by a red or violet-brown border. When the disease is limited in extent, one application renewed daily for three to six days is enough to cause the patches to disappear without the necessity of having recourse to baths.

M. Besnier has experimented with all these methods at the St. Louis Hospital at Paris, and prefers the method of Auspitz, which however he has somewhat modified. After removing the scales, he rubs the spots with a common painter's brush, soaked in a fifteen per cent solution of chrysophanic acid in chloroform. The duration and energy with which the application is made varies according to the thickness of the patch. The application gives rise to a slight sensation of heat and smarting; in a few seconds the chloroform has evaporated and the patch is literally infiltrated with pure chrysophanic acid, having become of the deep yellow color of iodoform. Then with a flat brush the patch is covered with a layer of traumaticin thickly laid on, and extending beyond the borders of the patch. The result is excellent.

M. Besnier has applied this method even to parts covered with hair, and without untoward accidents, local or general. The method has been found useful chiefly in cases of moderate infiltration, but when the patch is thick, fissured, and desquamating abundantly, the effect is not so striking. In such cases he has used instead of the chrysophanic-chloroform, a ten per cent solution of pyrogallic acid in ether covered with traumaticin.

Pyrogallic acid must be applied with the greatest caution, for several fatal cases have been reported as due to absorption of it.—*Brit. Med. Jour.*

Poison contained in Cholera Alvine Discharges.—Mr. Vincent Richards published in the *Indian Medical Gazette*, March, an account of some experiments on dogs made with choleraic dejections; he failed to obtain positive results. In the April issue he reports positive results obtained by experiments on pigs. In his first experiment he gave to a pig three months old a choleraic discharge which had just been evacuated; the animal became very restless, vomited, and died. In a second experiment the semi-solid contents of the intestine of a pig killed by the alvine discharges of a cholera patient were given to a half-grown pig; the animal was not affected; the same pig subsequently took the alvine discharges of a patient who recovered, but was at the time apparently suffering from the first stage of cholera; the animal recovered, but in a subsequent experiment, died one hour and twenty-eight minutes after the administration of an undoubted choleraic evacuation. Other experiments seemed to show that the evacuations, if kept more than a few hours, lost their poisonous properties. The administration of fresh evacuations was followed by death in from fifteen minutes to two hours and fifty minutes. Mr. Vincent Richards thus summarises the conclusions at which he had arrived.

1. The choleraic evacuations, at certain stages of the disease, contain a most virulent poison.

2. That if the poison finds its way into the stomach, it is absorbed and rapidly proves fatal.

3. That the principal action of the poison is not an organism, but of the nature of a chemical compound of a comparatively unstable nature.

4. That it will probably be found to be easy to destroy the power of the poison existing in the evacuations; in other words, to disinfect them.

5. That although the poison decomposes, it might by desiccation retain its powers for some considerable time. Hence, clothes, etc., stained with choleraic discharges, might be a source of danger.

THE EFFECT OF MENTAL ACTIVITY UPON THE TEMPERATURE OF THE BODY.— M. Gley recently communicated to the Societe de Biologie the results of a series of personal observations made to determine the fluctuations in the temperature of the body under various conditions. For this purpose he had a thermometer made in such a way that the rectal temperature could be easily observed and its variations followed. He found that when sitting perfectly still, with the mind not actively employed, the temperature fell steadily, but when he was engaged in intellectual work this descent was interrupted and partially arrested. In an hour and a half the temperature was 1·1° F. when the mind was at rest, but during the same length of time, with mental labor, there was a descent of but 0.4° F. In another series of observations, conducted while lying in bed, the intellectual faculties being meanwhile active, there was a slight rise. M. Gley seeks to explain this phenomenon by the increased heat of the brain caused by psychical activity, though it would admit of other, perhaps more satisfactory explanations.—*Gazette des Hopitaux.*—*Med. Record.*

PATHOGNOMONIC SIGNS OF DISEASE.— Dr. E. G. Janeway, of New York, read a paper before the American Medical Association on "the danger of relying too much upon so-called pathognomonic signs of disease."

It is often a very brilliant thing, he said, to make a snap diagnosis, but it is not safe to do so; for many so-called pathognomonic signs of special diseases are found, on closer inspection, not to be so in reality. For instance, optic neuritis, conjoined with headache, used to be considered as a pathognomonic sign of cerebral tumor. This is not so. We know that it only means that there is some increased pressure in the brain. You must also eliminate Bright's disease of the kidneys. Volitional tremor is thought by some to be very characteristic of multiple sclerosis, but a similar condition is observed in patients who are under the influence of metallic poisons, such as mercury, and also in those who have partaken freely of alcoholic stimulants. We often find considerable difficulty in cases of coma, in endeavoring to decide whether it is of hemorrhagic or uremic origin. The variations in the temperature of the body are here a valuable help in our investigation; but they are not sufficiently certain to found a positive conclusion upon. The existence of heart-murmur, or the absence of it, does not positively settle the point as to whether there is an embolus in the brain or a hemorrhage; and albumen in the urine is often associated with these lesions. The author went on to consider cases—referring to heart and chest diseases. It is not wise to rely too much upon these signs, but to take the whole bearing of the case in making the diagnosis.

Dr. Frank Donaldson, of Baltimore, in opening the discussion, spoke of cardiac murmurs. He had known of cases in which the autopsy showed marked stenosis of the mitral orifice, which has presented no murmur during life.

Dr. Janeway said that in some cases of pleurisy of slight grade, bronchial breathing is not present, and he had seen people much misled by it. In regard to mitral stenosis he thought that it could sometimes be detected by a long first sound with a slightly blubbering character, even when there was no murmur.—*Louisville Medical News.*

IMMORAL CONDUCT AS A SYMPTOM OF PARETIC DEMENTIA.—In 1882 the New York State Medical Society, at the instigation of Dr. J. P. Gray, passed resolution that the physician was not justified in drawing conclusions from moral manifestations of conduct, that department belonging exclusively to law. It has been well said by Dr. Hughes, that it was an absurdity for medical societies to define the province of any department of science. The absurdity of such resolutions is shown by the following cases of immoral conduct ushering in paretic dementia, which are reported by Legrand du Saulle (*Gazette des Hopitaux*, Sept. 11, 1883.) A rich functionary was arrested in a shop at the moment while putting into his pocket with out payment two porcelain articles of insignificent value. He was soon found to be a paretic dement. A highly respected notary, who had excercised his calling with honor for years, suddenly indulged in dishonorable practices, and was obliged to abandon his calling; he then became a wine merchant, ran through $50,000 in eighteen months, and died a paretic dement. A cashier became careless, apathetic, neglected his accounts, and then "forced" them; began to frequent places of doubtful repute; stealing to fill his pocketbook. He died from one of the apoplectiform attacks so frequent in paretic dementia, and his family were obliged to repay his $5,000 lost or taken by him. One case of stealing as a prodromic symptom of paretic dementia was reported in the *Journal of Nervous and Mental Disease*, volume viii., and as Legrand du Saulle says, violations of public decency and outrages may also be prodromic symptoms of paretic dementia.—J. G. KIERNAN, M.D., in *Jour. of Mental and Nervous Disease.*

THE EXISTENCE OF A THERMIC CENTRE, supposed to have its seat in the medulla oblongata, under the floor of the fourth ventricle, seems to be rendered more probable by a clinical observation, the only one, to our knowledge, extant, in which the post-mortem revealed a lesion in the region mentioned.

A patient suffering from chronic alcoholism, and having, besides, the symptoms of bulbar paralysis, first: Complete anæsthesia and difficult respiration, which was succeeded by the Cheyne-Stokes symptoms, showed the temperature of 73° F. in ano during the last days of his disease.

On post-mortem examination a focus of softening was found in the region indicated above.

It is questionable, moreover, whether the lowering of the temperature was really due to the destruction of the supposed centre, or to the continued alcoholic excesses and concomitant inanition. At all events, a temperature of 70° F. is something very uncommon.—*Weekly Medical Review.*

MEMBRANOUS CAST OF BOWEL.—To the Sheffield Medico-Chirurgical Society (meeting March 6, 1884), Mr. Edward Barber gave particulars of a case of chronic inflammation of the bowels, attended with the passage, *per anum*, of large quantities of false membrane, which were, in fact casts of the bowel. He exhibited the quantity that had been voided in the preceding twenty-four hours. The membrane was of a soft gelatinous consistency, and of a greenish-brown color. The patient was a woman, aged thirty-seven years, who had been married fourteen years, and had had no children. She suffered a good deal from neuralgia, was of a dull and desponding nature, and was beginning to exhibit symptoms of pronounced hypochondria.

Dr. Law and Dr. Banham referred to similar cases that had occurred in their own practice.

Dr. Keeling pointed out that there was an essential difference between the membranes exhibited and those given off from the uterus in cases of membranous dysmenorrhœa.—*Med. and Surg. Reporter.*

FEEDING INFANTS. — Infants should never be fed from a bottle, but always from a spoon or cup. This is the only way to prevent them from being over-fed, which, with the refusal to them of a free supply of water, that idiots still practice, kills three-fourths of the hand-fed children that die. Water should always be offered before milk is given, otherwise, to quench thirst and not from hunger, they will drink more of the latter than they can digest, and a bellyful of trouble will ensue.—*N. Y. Med. Journal.*

THE hypodermic injection of morphine has the same control over infantile convulsions that it exercises over eclampsia. Also it will generally prevent an epileptic paroxysm, whenever the near approach of one can be discovered.—*N. Y. Med. Journal.*

SURGERY.

THERMO-TRACHEOTOMY.—In the *Lancet*, May 10, 1884, Dr. Frank Marsh thus writes:

Few operations are easier of performance on the dead body than that of tracheotomy, and oftentimes few are so difficult upon the living, and. therefore, the following remarks on the use of Paquelin's thermocautery for that purpose may not prove uninteresting. Although of late highly recommended and frequently performed by leading continental surgeons, notably by Poinsot, Bœckel and Krishaber, no record of this operation has appeared, to my knowledge, in recent medical literature in England. At first sight it would seem to possess great advantages over the usual method with the scalpel, the bloodlessness of the whole proceeding proving attractive, especially to the timid operator. In a certain proportion of cases, I might even say a large proportion, the use of the cautery is obviously inadmissible, time not being given for its preparation, even were it at hand, as in spasm of the glottis, from whatever cause; acute obstruction from lodgement of foreign body; acute œdema, and all those cases in which the patient is at the last gasp before the surgeon is summoned. Unfortunately, in not a few of these instances, one is too late, even with the knife. It is also unsuitable for those cases where tracheotomy is performed for the purpose of extracting a foreign body from the air passages, the immediate union of the wound afterward being a desideratum if the attempt has proved successful. On the other hand, it would seem especially indicated in cases of diphtheria, or in syphilitic affections of the larynx, where, as a rule, the process of asphyxia is slow, and where the eschar would, to a great extent, prevent the infective process spreading to the wound.

The disadvantages peculiar to this operation are: the hard and hot eschar on the surface of the wound, preventing the finger being used as a guide during the process of the operation; the inflammatory action in the parts around during the separation of this eschar; the increased liability to secondary hemorrhage from implication of arteries in the sloughing process; the large wound consequently formed, and the subsequent trouble from cicatricial contraction. All these drawbacks, with the exception of the last, are well illustrated in the following case:

Ada P., aged six, suffering from diphtheria, was admitted into the detached infectious wards on the 10th of October last, under the care of Dr. Reid, with a view to tracheotomy being performed.

On admission there was great dyspnœa, very little air entering the chest. This increased so much during the next few hours that immediate tracheotomy afforded the only hope, and I decided to give the cautery a trial. The disease being extensive, it was desirable to perform the operation as low down as possible. The child had a short and fat neck, and the thyroid veins were much engorged, owing to the partial asphyxia, material obstacles to begin with. Using a knife-shaped point, with a series of light touches (following Krishaber), keeping strictly in mid-line, and pressing forward the trachea as much as possible with the finger and thumb of the left hand on either side, the latter was at length reached a good inch from the surface, the whole proceeding being perfectly bloodless, and, as far as that was concerned, eminently satisfactory. It was almost impossible to tell the position of the trachea in the wound by tactile examination during the process, and difficult to recognize it by sight among the seared parts, the increased resistance and tendency of the cautery to roll off into the loose areolar tissue around being the chief indications by which it was reached. This tendency proving an obstacle to opening, a scalpel was used for the purpose, and with some little difficulty, on account of the depth of the trachea from the surface, a bivalve canula was introduced, over which a shield of wire, covered with two layers of gauze. was fixed, and being occasionally moistened with oil of eucalyptus, kept the inspired air both aseptic and free from particles of dust, etc. The child immediately experienced great relief, and on the following day seemed much better, but on the third and fourth days the parts around were much swollen and inflamed, a source of much discomfort to the child. On the morning of the fifth day, a severe attack of secondary hemorrhage occurred, evidently from the right inferior thyroid artery becoming implicated in the sloughing process attendant on the separation of the eschar. This was stopped by the pressure of lint soaked in strong tincture of perchloride of iron, but not before a good quantity of blood had passed downward into the bronchii, the canula having been removed by the nurse at the onset of the bleeding. This caused some dyspnœa, the child being unable to expel the blood, and in spite of remedies death took place about two hours afterward.

This case, I think; fairly shows the difficulty and drawbacks to this method. With the knife there would undoubtedly have been a great amount of venous bleeding, put it would have soon ceased upon the reestablishment of free respiration; also, the position of the trachea could have been defined during the operation, a matter of some import when the trachea is deeply seated; neither do I think that secondary hemorrhage would have occurred. Again, had the child lived there would have been the disfigurement from a large scar, and in all probability trouble would have arisen from the pressure effects consequent on the cicatrization and subsequent contraction of an unnecessarily large wound. This, also, would have been avoided by the use of the scalpel. Now, in an adult with a fairly thin neck, there is seldom any venous or capillary hemorrhage of consequence, and on this account, therefore, the cautery would hardly be needed, and it would prove of but little avail in checking bleeding from an artery of any magnitude, should one be met with, as occasionally happens, when, for instance, an additional thyroid artery is present; indeed, it would only increase the difficulty of applying torsion or ligature, by the consolidation of the parts around. In adults it might be of use in keeping the wound free from septic or other infection, the subsequent sloughing process, on account of the greater space, not to be so much feared as in the case of a child. Taking, however, into consideration all the above facts, the balance of evidence appears to me by far to be in favor of the older method with the scalpel, especially for children, and without detracting from the merits of a most valuable instrument, I would very strongly urge its unsuitability for the preformance of tracheotomy. — *Medical and Surgical Reporter.*

RESECTION OF MUSCLES IN INFANTILE PARALYSIS.—Mr. Keetley has recently undertaken the resection of part of the quadriceps extensor femoris in a case of infantile paralysis, causing inability to extend the right knee. By shortening the weak, relaxed, and partly atrophied muscle, the operator hoped to increase its strength, with the aid of electricty during recovery from the operation. Mr. Willett has already resected the tendo Achillis in paralytic talipes calcaneus, with good results, finding that the shortening of the abnormally elongated tendon enables the muscles of the calf to regain some portion of their lost functions, especially when the muscular wasting has been chiefly due to disease, and has not advanced too far. Mr. Keetley's patient was a boy aged 6, who had suffered from paralysis of the right lower extremity for four years, and the muscular atrophy was not complete, yet sufficient to prevent thorough extension of the knee. A longitudinal incision was made in front of the thigh, about three inches in length, ending an inch above the patella; the skin was held apart by retractors, and one inch of the entire substance of the quadriceps was cut away with scissors, about two inches above the patella. The separated ends were united by means of about one dozen carbolised catgut-ligatures. Esmarch's bandage had been applied before operation, and only one small artery required ligature. The wound was dressed with a small iodoform-pad and carbolic-gauze, and the limb placed on a back-splint at an angle of sixty degrees with the bed. The operation was performed on May 6th. The wound healed rapidly and perfectly, and, when a sufficient time has clapsed, the results will be made known.—*British Medical Journal.*

DISLOCATION OF THE LIVER. — Dr. Enrique Suner, in the *Genio Medico-Quirurgico* March 22, reports an interesting case of dislocation of the liver. F.B., aged 43, married, with two children and four abortions, had suffered from paludic remittent fever. Her history was otherwise good.

She was a hard worker, having often to lift and carry heavy weights. She had suffered for seven years great pain in the epigastric region, and noticed that this part became swollen. She had pain also sometimes in the abdomen, and sensation of weight on the right side, and was unable to sleep on the left side. Four years ago she noticed a tumor on the right side of the abdomen, which was sometimes painful. The bowels acted regularly; the urine was normal; the menses were scanty and irregular; the spleen was slightly enlarged. The skin and sclerotic were subicteric. There was chloasma in the face. In the heart and jugular veins anæmic murmurs were to be heard. The coverings of the abdomen yielded easily to pressure; there was no fat; the right side was larger than the left. In the epigastrium a small spheroidal tumor could be felt; in the umbilical region, chiefly on the right side, a larger tumor could be felt; these tumors were connected; the surface of the tumor was smooth; it was moveable, especially to the right, and it could be pushed up into the right hypochondrium. The ascending colon lay to the right of the tumor, the transverse colon passed below it. Below, and on the left side of the tumor could be felt, on deep pressure, its sharp border, with two depressions, one corresponding to the interlobular division of the liver, and about seven centimetres lower, another, which corresponded to the depression of the gall bladder. The gall bladder itself could not be well made out, probably because the border of the liver was curled in front of it. This curling of the edge of the displaced liver helped to establish the diagnosis from other tumors. Most authors attribute this dislocation to pregnancy with pendulous belly, the *uterus en besace;* in the majority of cases there has been extreme flaccidity of the abdominal walls, anæmia, and want of adipose tissue. In this case there had been simultaneous enlargement of the liver and spleen from old intermittents.

Dr. Kispert considers the following as causes of this dislocation:

1. Former pathological states of the liver, as enlargement with subsequent diminution, the ligaments thus losing their natural elasticity.

2. Anæmia and other constitutional affections.

3. Gestation and other mechanical causes.

4. Pendulous abdomen.

Points of diagnosis are, a tumor in the centre and right side of addomen with the characteristics of the liver; tympanitic sound on percussion between this tumor and the lung; the above mentioned curling or folding in of the borders — this symptom has not been mentioned by any other author. The dislocation, though painful, is quite compatible with life. The pain and distress occasioned by it can be much lessened by the reposition of the liver in its normal situation and the adjustment of a bandage or belt.—*London Med. Record.*

OBSTETRICS, AND DISEASES OF WOMEN.

EXPERIENCE OF A NOVICE IN OBSTETRICS. You are aware that we live in a progressive age, and our system of medicine, though advancing with other sciences, may never achieve perfection. I started out from "Transylvania Medical University" thirty-seven years ago to battle with diseases, and I have witnessed them in all their varied forms. I was instructed by my old preceptor (Prof. Benj. W. Dudley) that nearly all diseases are caused by a derangement of the "chylopoietic viscera;" and it was necessary in such cases to correct the derangement by the use of such active remedies as calomel, antimony, etc. Being fresh from college, I, of course, had a great deal of confidence in my professional skill, and supposed that I could almost raise the dead with suitable drugs; consequently I "stuck out my shingle" in Barbourville, Ky., and in a short time was required to visit a family on Indian Creek. The messenger was a young lady, who came on horseback without a saddle. Having no medicines on hand, I went to my friend, Dr. Samuel F. Miller, who was then practicing medicine in Barbourville, but now occupies the distinguished position of Judge of the Supreme Court of the United States, and I procured from him a little calomel, jalap, antimony, etc., and started out on my first visit to a patient. When I arrived, I found the most deplorable and destitute family I ever saw. The father, mother, and all of the children were more or less diseased.

They had not had a supply of nourishment and had been accustomed to eating slate rock, and were very pale and anemic. Their extremities were swollen, as though they had dropsy. Having been taught that nearly all diseases were caused by a derangement of the "chylopoietic viscera," and that we should correct the "alimentary canal" by the use of calomel, etc., I commenced on three of the children by giving each of them a dose of calomel and jalap. When I returned the next day, in place of finding the cause removed and my patients better, two of them were on a rapid course to the cemetery, and when I returned the next day they were dead. Imagine my feelings on this occasion. I learned a lesson that I have never forgotten; that was, the importance of a correct diagnosis, and the danger of following general rules in medical practice. Of course I changed my treatment, and advised the family to send to their neighbors and get a supply of provisions, and give the little boy who had survived my prior treatment as much nutritious diet as his stomach would digest. The neighbors were very kind, and gave them a supply of provisions which was all they needed.

In a few days after attending this family, I was called on to visit a female living on Poplar Creek. When I arrived I noticed several old ladies to come out of the house, one of them wearing spectacles. They seemed surprised to see a young man, as they had looked for Dr. Miller. Imagine my surprise when I entered and ascertained that the case was a lady in confinement. I wished myself a thousand miles away, but I knew that under the circumstances I had to "face the music." There was a jug of rum on the table, and I was invited to take a "smile." I did so, with pleasure, and the rum gave me nerve to proceed to business. What man could, under such circumstances, refuse to take a smile? So drawing my chair close up to old Mrs. Mackey, the lady who wore the spectacles, I inquired if she was an "old granny lady." She said she made pretentions in that way in cases of emergency. Well, said I, it may be possible that I pursue a different course as an accoucheur; what course do you pursue? She seemed to know that I was young and inexperienced in such cases, and informed me all about her course in making an examination, and after the child is born, how she tied the umbilical cord in two places, and cut between the knots, and about taking away the placenta, putting on the bandage, etc. The fact is, I had read a great deal about the duties of an accoucheur, but the practical experience with the instructions from old Mother Mackey on that occasion, gave me more information than I ever could have learned from books and lectures. Being a first confinement, the case was tedious. When I made the first examination I could not feel anything, and so expressed myself to Mrs. Mackey, who said: "Young man, you will feel something like your fingers (putting the ends of the fingers of the left hand together and putting the end of the forefinger of her right hand on the ends), like, this, which is the womb, that contracts or opens when she has good expulsive pains, and will continue to open until the child is born."

There have been thousands of young physicians placed in my predicament, and who needed Mrs. Mackey's instructions. But the modern system of teaching obstetrics is much more perfect now than it was in my college days. I have been informed that the professor of obstetrics in Cooper College teaches the system practically, and his instructions are very elaborate on the subject. Young physicians are usually very timid in discharging their duty in such cases, and it is very essential for them to be well posted and ready for any emergency. In my first case, as stated, I was so much confused that I did not know anything, and went fooling around to that extent that the young lady became disgusted, and so did I. But the child was born nevertheless. The lady, who was the daughter of a very respectable family, had been seduced by a young man who promised to marry her, but left the country instead. Wanting a name for the boy, she called him B. B. Allen; but I did not derive any credit for the course I pursued. It makes me laugh to think of my first examination. It made the young lady laugh at the time. I pity the young M.D. who is as "green" as I was when he makes his first examination.—B.B.A., in *Pacific Med. and Surgical Journal.*

POISONING BY CARBOLIC ACID SUCCESSFULLY TREATED WITH CAMPHOR.—This was a case of puerperal fever following abortion at the seventh month. Vaginal injections of carbolic solution (one per cent.) were ordered to be used three times a day, with phenate of quinine internally. On the second day of this treatment Dr. Altara was summoned in haste, and found the patient with very frequent scarcely perceptible pulse, temperature fallen to 35° C. (95° F.), a cold sweat, vertigo, difficulty of swallowing, pain in the loins, enuresis, and hemoglobinuria. There was no doubt that the patient was suffering from symptoms of carbolic acid poisoning, with symptoms of collapse and irritation of the kidneys. A mixture of castor-oil and glycerine was at once given, and an injection of water and oil of almonds. Three hours afterwards the patient was worse. Dr. Altara, being struck by the analogy of the symptoms of irritation of the genito-urinary organs with those produced by cantharides, determined to give camphor, the good effect of which in the irritation produced by cantharides is well known. Half a gramme (seven and one-half grains) of camphor in 200 grammes of orange syrup was prescribed, a tablespoonful to be given every hour. About half an hour after the first dose, the toxic symptoms began to diminish; after the third dose, the improvement was very evident; and after the fourth the pains were so much better, that the patient fell into a tranquil sleep, which lasted for some hours. In the morning she was cheerful; pulse 70, temperature 36·2° C. (97° F.); and she convalesced rapidly.

In this case camphor behaved as a true antidote: the toxic symptoms disappeared entirely four hours after beginning the camphor. Bufalini and Sinler recommend a mixture of camphor and carbolic acid, which they affirm to be in every respect superior to carbolic acid as a dressing for wounds. It is not caustic, and can be used in large quantities without danger of poisoning.—*London Medical Record.*

WITCH-HAZEL IN MENORRHAGIA. — According to Mr. Henry M. Chute, menorrhagia is a very frequent ailment of women in Cape Colony. He has found a valuable remedy for it, he says, in the American witch-hazel (*Hamamelis virginica*), in doses of half a teaspoonful of the fluid extract in sugared water, twice or three times a day. Mr. Chute states that it acts so quickly that it is not necessary to anticipate the flow, but when menstruation, after it has lasted the ordinary time, is not closing naturally, the remedy, given as above, will effectually restrain it, and after the hemorrhage has ceased there is no advantage in continuing it. When thus taken, some patients have mentioned that they have a pleasant sense of exhiliration, and have lost that wearying sense of languor felt at these times. Another good result witch-hazel produces is that when there is dysmenorrhœa, it in a very quick and marked way relieves the pain.—*South African Med. Journal.—Medical Record.*

VOMITING OF PREGNANCY.—Dr. Torino has found that during pregnancy there are often points of tenderness along the spinal column. He attributes the vomiting to spinal irritation and anæmia of the cord. In support of this theory he adduces the satisfactory results often obtained by the administration of phosphite of zinc and nux vomica. Under the influence of these drugs the vomiting is frequently controlled and the points of spinal tenderness disappear.—*L' Union Médicale.—Med. Record.*

MISCELLANY.

THE MEASUREMENT OF HUMAN FACULTY.—The "Rede" lecture was delivered on Wednesday in the Cambridge University Senate House by Mr. Francis Galton, M. A., F.R.S. There was a tolerably large audience, but as many members of the university are now engaged in the work of examinations, the attendance was, from that cause, not so large as is customary at this annual lecture. An effort had been made to induce the Vice-Chancellor to alter the day for the delivery of the lecture, but the request could not be complied with. The Vice-Chancellor, who was most warmly applauded on entering the State House, briefly introduced the lecturer. Mr. Galton, who had selected as the subject for the lecture "The Measurement of Human Faculty," commenced by stating that, although it had been a matter of controversy whether a more complete measurement of man's capacity could be attained than was already discovered by means of examinations which measured intellectual capacity, yet he would endeavor to demonstrate that as the capacity of man, taken in its widest sense, including character and physique, was finite, therefore it was measurable. The art of measuring human faculties was now occupying attention, and in it he perceived the dawn of a new and interesting science. It would be impossible for him, with the limited time at his disposeal, to compress in one lecture even an enumeration of the means to be adopted to arrive at correct *data* whereby rules could be laid down for the measurement of the human faculty. In order to arrive at any conclusions, it was necessary, that contrasts of men extending over a wide range should be made, but he would confine his remarks to contrasts of two kinds—first, temperament and character; and, secondly, other qualities, as, height, weight, strength, and the like. Temperament and character formed landmarks as bases for survey, and the first question to be solved and which arose was whether temperament and character were liable to spentaneous changes, or whether men were constituted so differently that any measurement was based upon a fallacy when we treated man as a mere conscious machine, and endeavored to measure his capabilities as we would those of an engine. He had taken some pains to obtain new kinds of evidence, and the result of that evidence was that the actions of men were governed by cause and effect; but, on the other hand, if the conduct of man were the result of some external influence, then such knowledge as he had obtained was of little service. His earlier inquiries, which were embodied in his work on *Hereditary Genius*, led him to the conclusion that the son conducted himself in life in much the same way as the father, was influenced by similar motives, possessed similar talents and similar failings; that man was not like a ship drifting, but arrived in due course, by certain sure stages at a predestined port. The result of a long habit of introspective inquiry into one's actions in daily life demonstrated to him that the occasion when free will was exercised was uncommonly rare, less than one instance in a day; and the general result of an extended habit of introspective inquiry was that man is little more than a conscious machine. The problem to be solved was, what common incidents occurred in the lives of a given number of people? to select them, and briefly describe how the various persons acted when they occurred. One notable incident to all was emotional temperament, another temper. Taking a number of men, and comparing their conduct when emotional temperament or temper was excited, we would obtain statistics of each man's character in ordinary everyday affairs, and this would enable the scientist to accurately gauge and measure human faculty. But this measurement would be assisted and rendered more complete if at the same time records were obtainable containing particulars regarding eyesight, color, sense, hearing, breathing capability, height, span of arms, etc. At the Johns Hopkins University in America, physical education and hygiene were compulsory on all students; and although the physical measurements taken were not compulsory, yet few objected, and the result was that the most valuable statistics were collected, and in many instances good advice was given to the students in what way to counteract the effects of any abnormal condition observed, such as irregularity of muscular development. The color of the hair and of the eyes also gave valuable data for measurement of human faculty. The color of the hair indicated immunity from and susceptibility to disease. At the time of the American Civil War it was found, out of between 330,000 and 340,000 examined, that those who had light hair were more susceptible to disease than those with dark hair; in fact, those with light hair were susceptible to all kinds of diseases except chronic rheumatism. The lecturer concluded by suggesting that a laboratory should be opened at Cambridge to investigate this new science. The cost would be small, the result, he venturned to predict, would be large and beneficial, for, by compiling continuous records of health, growth, and disease, much useful knowledge would be acquired, and by a long series of observations on the lines he had indicated it would be possible to measure the human faculty as accurately, if not more so, than our system of examinations measured the intellectual faculty of man. At the conclusion of the lecture Mr. Galton was awarded a vote of thanks by acclamation.—*British Medical Journal.*

CRUDE PETROLEUM AS A DISINFECTANT AND PRESERVING AGENT.—In the *Arkhiv Vetertnarnykh Nauk*, Dec. 1883, p. 67, M. M. P. Georgizon, a veterinary surgeon of Baku ('petroleum town') gives an interesting article on the various properties and uses of crude petroleum. The author points out a certain similarity existing between the action of this substance and that of turpentine. Taken internally, it augments the secretion of urine and mucus. Inhalation of its vapor in the open air increases the frequency of pulse, ease of respiration, and the secretory action of the respiratory mucous membrane. Prolonged inhalation in a confined space causes headache, sleeplessness, and giddiness. Inunction of petroleum in animals rapidly destroys fleas, lice, and acari of scabies. Like M. Popoff (*Arkhiv Veterinarnykh Nauk*, Sept. 1881) and Dr. Bronnikoff (*Ibid.*, Sept. 1880), the author speaks favorably of the drug as an antiseptic dressing of wounds in animals. A series of experiments showed that crude petroleum seemed to annihilate the infectious power of rinderpest-virus. [These experiments consisted in the immersion in petroleum of blood and mucus from the diseased animals, and in subsequent inoculation to the healthy; the results were negative.] Another series of comparative experiments on the antifermentative and antiputrefactive action of various substances (a solution of two grains of permanganate of potash in three ounces of water, a concentrated solution of phenol in water and glycerine, liquor of perchloride of iron, turpentine, and crude petroleum) showed that petroleum acted far more weakly than phenol or the solution of perchloride of iron, but more strongly than the solution of permanganate of potash. A piece of meat kept in petroleum at the temperature from 25° to 38° C. (from 77° to 100° F.) remained sweet for five days. M. Georigizon recommends petroleum as a cheap means for disinfection of animals, stables, etc., in cases of rinderpest and anthrax, and as a preserving fluid for anatomical preparations, dead bodies, etc.—*London Medical Record.*

REFUSAL BY THE INSANE TO TAKE FOOD. F. Siemens disparages forcible feeding of the insane. He thinks the dangers of fasting to such patients not so great as is generally supposed. The abstinence from food in most cases depends upon disturbances of innervation and tissue metamorphosis, and consequently only a symptom of a morbid bodily condition. Therefore feeding should no more be compulsory with the insane than with the sane who suffer from similar bodily conditions. With the insane the retardation of tissue metamorphosis gives to the body the capacity to do with little food.—*Journal of Mental and Nervous Diseases.*

TOBACCO AS AN ANTIZYMOTIC.—There is a popular notion that the use of tobacco is in some degree a protective against the infectious diseases. In the *Montpellier Médical*, quoted in the *Bulletin Général de Thérapeutique*, Dr. Pecholier supports this belief, saying that he considers tobacco an energetic parasiticide, capable of acting upon microzymes and microbia, and that, while he thinks its abuse liable to produce well-marked effects on man, he is, nevertheless, convinced that it is capable of rendering important service in protecting him against epidemic and contagious diseases. He lays particular stress on the immunity against phthisis acquired by workers in tobacco.—*N. Y. Med. Jour.*

A BAR TO MALPRACTICE SUITS.—A case tried not long since in one of the Western States brought up the question whether a successful suit by a physician for the value of his services did not bar any subsequent suit by the patient for malpractice, and it was held that it did. The first suit was litigated to decide the point of the value of the services, and although the charge of malpractice was not directly made as in the second suit, yet if there had been any malpractice there would, of course, have been no value to the services. The failure to make the charge in the first suit was held to forever prevent its being raised afterwards.—*Med. and Surg. Reporter.*

TREATMENT OF INGROWING TOE-NAIL.—Prof. Petersen, of Kiel, communicates to the *Deut. Med. Woch.* his method of treatment in cases of ingrowing toe-nail. He removes the whole of the soft parts down one side of the nail, extirpates the nail itself, from antiseptic motives, and, after arresting bleeding by pressure, dresses the wound rapidly with oxide of zinc and cotton-wool. Fourteen days' rest in bed, with the foot raised, generally suffices for cure, and the contraction of the cicatrix prevents a relapse to the old condition. Prof. Petersen prefers general to local anæsthesia, on account of the troublesome bleeding afterwards; and for the same reason he does not approve of Esmarch's bandage in this operation.—*London Med. Record.*

A YOUNG MAN who sat upon a black piece of iron in a blacksmith shop, and uncermoniously sprang seven feet in the air, with a wild shriek of despair, says he don't think much of the hot springs as a health resort.

Original Articles.

AREA CELSI.

A Paper read before the Academy of Medicine, May 26, 1884.

By A. Ravogli, M.D., Cincinnati.

This very singular disease of the hair is called by many authors "Area Celsi," assigning its first description to the Roman surgeon Celsus. But Celsus in the chapter "De Areis" distinctly describes an affection which he calls *Οφιασις*, on account of its irregular snake-like progression and applies the name "area" more to other forms of baldness.

Sauvages was the first who called the irregular deficiency of the hair in many spots by the name of "alopecia areata." Willan gave the first correct description of this affection, calling it "porrigo decalvans" or bald ringworm. He describes the disease as consisting of simple round bald spots, the hair surrounding the spots being in normal condition. The surface of these spots is very smooth, white and shining, and they gradually coalesce.

Willan described another kind of baldness under the name of "porrigo scutulata," where small vesicles, pustules and scales appear on the diseased surface and the hair breaks off close to the skin. This disease is entirely different from the one under consideration. Alibert confused his Porrigo Tonsoria, the "Teigne Tondante" of Mahon, with the Porrigo Decalvans of Willan.

In 1843 Gruby thought he could demonstrate the existence of a fungus in Porrigo Decalvans, which was discovered by Audoin, thus establishing the disease as a phytoalopecia. But at this time all was confusion, and nothing to distinguish the porrigo decalvans from the porrigo scutulata, tonsoria, etc. Cazenance in 1856 distinguished herpes tonsurans from the bald spots with diminution of pigmentation, which he called Vitiligo.

Hebra in 1858, in his Atlas of Skin Diseases showed alopecia areata to be entirely different from herpes tonsurans. At that time he accepted the fungus described by Gruby as the cause of the disease, but he afterwards concluded that the disease was not due to a parasite.

Since that time the nature of the disease has been undecided, Bazin and others supporting the opinion of its parasitic nature, while Hebra, Baerensprung, Duhring and others deny its parasitic nature, believing that the former observers confounded herpes tonsurans with it.

Before giving my opinion on the disease I will describe its symptomatology. Alopecia areata begins in one or many places, simultaneously or in succession, and is irregularly distributed on the scalp. It rarely occurs on the beard. In these places the hairs fall from their follicles without breaking, beginning in a centre and spreading outwardly. Therefore we find many round places on the scalp entirely bald, the skin being normal, and surrounded by abundant hair. The depilated skin is smooth, without redness, swelling or scales, is less pigmented than the rest of the scalp, and on its surface are seen many small points, which are the openings of the follicles containing small clear hairs. In these depressions there are no stumps of broken hairs, and this is why the skin appears much whiter than if shaved with a razor, where the pigmented stumps of the hairs remain. The hair is loose in its follicles and comes out easily, and thus the spots may increase in a few weeks from the size of a dime to the size of the palm of the hand. The spots are always round, but their coalescence often presents a varied shape. The disease produces no further lesions, but remains at the point now reached. This is revealed when the hair surrounding the spot remains strong in its follicles. Then small pale hairs begin to grow again on the bald spot, the hairs afterward become pigmented by degrees, until after a year or so all trace of the disease has disappeared. In some unhappy cases the disease does not stop, but new bald spots appear not only on the scalp, but on every part of the body furnished with hair. But even in cases of entire loss of hair its restoration generally follows, as described in cases of partial loss. No subjective symptoms accompany this disease, no pain, itching or constitutional disturbance.

We will now examine the pathological alterations.

Rindfleisch claimed to have found a sort of enlargement near the bulb, which was not proved in all cases. Kaposi in many cases found the same enlargement, with the peculiarity that the root was folded. Duhring describes the hair as abruptly terminating in a pear- or club-shaped extremity. Instead of the thick, long luxuriant bulb of healthy hairs, it was contracted, shrivelled and atrophied, and surrounded with a scanty supply of sebum and epidermic cells, the end sharply defined with a zigzag border. The root above the bulb retains its normal appearance, with the exception of being a little diminished in size. In the shaft towards the free end, however, may be noticed an even and gradual distention terminating in an oval swelling close to the end of the hair, which tapers and ends in a broken extremity. We have a sudden arrest of nutrition from some cause, and rapid wasting in consequence.

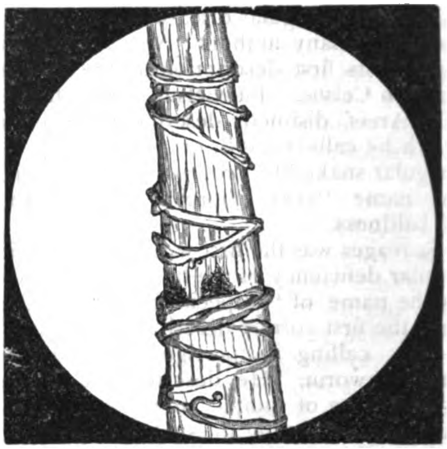
Gruby described a kind of microsporon as the cause of the disease, but the observations of Hebra, Kaposi, Neumann, and others failed to prove the existence of any fungus. Tilbury Fox who at one time described a fungus, giving also the figures, confessed afterward that the supposed fungi were mere fat and epidermic cells. The theory of Rindfleisch was therefore accepted that the cause of alopecia areata is a disturbance of the nerves of nutrition, a trophoneurosis. Wilson refers to the case of a lady who had neuralgia in the head and afterward alopecia areata appeared.

This is the current theory, and dermatologists describe the disease as a neuropathy. I have had many cases of alopecia areata, in none of which was there evidently perverted innervation.

I have never met a case in which the hair dropped off in one night as reported by several dermatologists, but the baldness progressed very slowly. Commonly the patient gets one very small bald spot which gradually grows larger, and then others come irregularly, more suggestive of contagion than of a trophoneurosis.

Prof. Manassei of Rome observed many cases of area celsi in ladies after using the fashionable chignon, for which reason he was inclined to believe the disease due to a parasite, and he speedily produced good results with corrosive sublimate solutions. Here in Cincinnati I have had six cases of alopecia areata in which the use of coal oil gave the most satisfactory results. In a German who had five spots scattered over all the scalp for years, the spots almost entirely disappeared in four months, and the hairs are now growing nicely and gaining in strength and color. The effects obtained with coal oil confirming more and more my suspicions of the parasitic nature of the disease, I began a series of microscopic observations which resulted in its discovery.

You see in these specimens, gentlemen, the bulb of the hair contracted and shrivelled and the pigment very scarce. On the shaft a little distance from the root you find a kind of thread ramified, and each ramification starts from a round central point contains small brilliant granules.



This form which I present to you under the microscope seems to be a vegetable one belonging to the interminate kingdom of the cryptogams. The power of the microscope is now 1,010 diameters, the size of the parasite is about ·02 of mm. You see the threads surrounding the hair at a distance of two to three milimetres from the bulb, and ramifying with each other, have in their midst some round cells which are undoubtedly their organs of fructification. The threads have a gelatinous appearance, but in some points you can perceive a fibrillar structure.

Now, having found constantly in three different cases hairs presenting this singular form at the same point, the cause may be recognized in this micro-organism which I present to your attention.

From the existence of this parasite we can explain the contagiousness of the spots on the same individual. The parasite growing around the hair causes its atrophy, but it does not insinuate itself into the follicles like the tinea tonsurans, at least I never have found it on the bulb but only on the shaft of the hair outside the epidermis. We thus see the reason for the absence of pustules, papules and scales, so prominent in trychophyton tonsurans. When the affected hairs drop out the parasite goes with them, hence the spontaneous recovery. We can hasten the recovery, as I did in my cases, by rubbing twice a day with coal oil, a solution of corrosive sublimate, or any other parasiticide. Once a week I remove with the forceps the small hairs on the spots, until they grow stronger and better furnished with pigment. I conclude

1. That area celsi or alopecia areata is of parasitic origin.
2. The parasite is not a microsporon but a vegetable form hitherto undescribed.
3. Removal of the lanugo with forceps and use of coal oil hastens recovery.

FOREIGN BODY (Scale of Steel) IN LEFT ORBIT AND GLOBE.

Forced through the Upper Lid into the Orbital Cavity, Penetrating about One-third its Length into the Eyeball, behind the Equator, Transfixing it, and Abolishing all Movement Inwards and Upwards. Severe Paroxysms of Pain and Sympathetic Irritation of Right Eye One Year after Accident. — Enucleation of Globe and Removal of Foreign Body.

Service of Dr. Robert Sattler, Cincinnati, O.

Reported by Albert V. Phelps, Resident Hospital Physician.

John Rapp, a German, fairly developed and nourished, and an iron-worker, was admitted into the Cincinnati Hospital June 4, 1884. He states that *about one year ago* while engaged in breaking up an old plowshare, a foreign body struck him on the inner side of the orbit.

Hemorrhage from the wound was so great that his companions were compelled to stuff the wound with "belt-scrapings" before it could be checked. Violent inflammation followed in the left eye, and the same remained from the time of the accident till the present tender and painful, while the right frequently suffered from sympathetic irritation.

Condition on Admission.

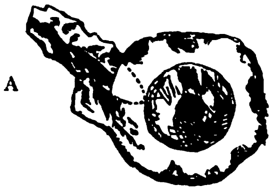
The left eye is reduced in size, altered in shape, and presents all the evidences of having been destroyed by traumatic plastic irido-choroiditis. V=O. It diverges, and muscular movements inwards and upwards are abolished. The globe is injected, exquisitely sensitive, the slightest pressure causing pain.

At a point on the upper lid, where the patient said the foreign body penetrated, a cicatricial alteration is detected.

The *right eye* is sensitive to light, and fatigues on the slightest exertion. There are also other symptoms usually attendant upon sympathetic irritation. Enucleation of the left eye was proposed, as the only remedy, and consented to. The operation was performed by Dr. Sattler.

The patient being thoroughly anæsthetized, extreme difficulty was experienced in introducing the lid speculum, owing to firm adhesions between the globe and the lid inwards.

After the conjunctiva and tendons of the recti muscles were separated, which was tedious, on account of the numerous adhesions, a firm mass, containing a foreign body, was encountered inwards.



Natural size. ¾ inch long, greatest width ¼ inch, weight 8 grs. A, tendon of rectus.

It was impossible to detach this cicatricial mass, firmly attached as it was to the bone on one side and the eyeball on the other, by severing it from in front, hence the optic nerve and oblique muscles were divided, with a view toward loosening the mass from behind.

The division of nerve and muscles was completed easily, the cicatricial mass had to be dissected from the eyeball.

On making this dissection and traction, the foreign body was pulled from the eyeball, into which it had penetrated about one-third its length.

The globe, being now liberated, was removed, but the foreign body remained firmly imbedded in the cicatricial mass attached to the inner and upper wall of the orbit.

The foreign body, a quadrangular piece of steel, was removed with a bone forceps, after considerable traction.

It had penetrated the bone, and because of its serrated borders, was securely held by the cicatricial tissues surrounding it.

After removal, measurement showed it to be nearly three-fourths of an inch in length, and several lines in breadth.

Ice applications constituted the after-treatment. No reaction following, the patient was discharged on the third day after the operation.

Correspondence.

FOREIGN CORRESPONDENCE.

GÖTTINGEN, JUNE 4, 1884.

Editors Lancet and Clinic:

Students graduating from American medical colleges, as a rule, feel that more practical clinical work is necessary to fit them for their future professional duties of practitioners of medicine. Germany undoubtedly offers not only more clinical material for diagnosis, operations and treatment, but also greater opportunities for laboratory work to train the eye and hand, than any other country. Medical students constitute the only class of students, who in any considerable number follow the old German custom of travelling about (Wanderjahre) to supplement their regular course of study by witnessing the celebrated physicians and surgeons of Europe perform that work to which they have devoted their lives.

The majority of American medical students go to Europe either for practical courses or special branches, and do not wish to obtain a diploma. A few, however, come over here without having previously taken the degree of M. D., and pass through the regular course in order to get their diploma from a German university. The medical course in these universities is more thorough and complete than in America, and a short account of their requirements, methods of instruction and examination may be of interest.

There are two medical diplomas given in Germany, one by the state and the other by the university, each having separate examinations, the former being the more difficult. The state recognizes only those who have passed its examination, and they alone have a license to practice and receive appointments to the medical offices of the state. Those who have only passed the university examination cannot compel the payment of fees by law. Any person without a degree can practice medicine in Germany, but he does so at his own peril, for if he makes a mistake of any consequence he is punished both by fine and imprisonment.

The following are the requirements for all the degrees taken by German students: He must have devoted ten semesters to medical study, and be a graduate at least of a gymnasium (our high school.) The first four semesters must be devoted exclusively to physics, chemistry, botany, zoology, mineralogy, anatomy and physiology. At the end of the fourth semester the student must pass his first examination (tentamen physicum.) With the fifth semester commences his purely medical studies, which must be continued without interruption for two years, and then he is allowed to pass the state examination (medizinische Staatsexamen.) The university examination can be passed either before or after the state examination.

The following is the list of studies recommended by the Göttingen university. The first column states the number of semesters the study must be continued, and the last one shows during which semesters it is studied.

PREPARATORY SCIENTIFIC STUDIES.

Semester		Semester
2	Physics	1st and 2d
1	Experimental Chemistry	1st or 2d
1	Mineralogy	"
1	Botany	"
1	Zoology	"
1	Organic Chemistry	2d or 3d
1	Quantitative analysis	"
1	Qualitative "	3d or 4th
	MEDICAL STUDIES.	
	ANATOMY.	
1	Osteology and syndesmology	1st
2	General anatomy	1st to 4th
2	Dissecting	"
1	Histology	"
1	Comparative anatomy	"
1	Embryology	"
1	Tissues	1st to 3d
1	Topographical anatomy.	3d io 6th
	PHYSIOLOGY.	
1	General Physiology	2d or 3d
1 or 2	Experimental ' (1st part)	"
"	" " (2d part)	3d or 4th
'	Demonstrations and exercises	3d to 8th
1	Medical chemistry	"
1 or 2	Physiological conference	"
1	Medical physics	2d or 3d
	PATHOLOGICAL ANATOMY.	
1	General Pathology and Pathological Anatomy	5th or 6th
1 or 2	Special Pathological Anatomy and Histology, 1st part.	5th or 6th
1 or 2	2d part	6th or 7th
3	Autopsies	6th to 8th
1 or 2	Practical work in Pathological Histology	7th or 8th
	SURGERY.	
2	Surgery	5th and 6th
2 or 3	Instruction in operations	6th to 8th
"	Instruments and bandaging	"
3	Polyclinics	5th to 8th

2	Operative course	7th and 8th
1	Bandaging	6th or 7th
2	Surgery of the eye	7th and 8th
	INTERNAL MEDICINE.	
2	Auscultation and Percussion	5th to 7th
1	Materia Medica	5th to 6th
1	Therapeutics	"
3 or 4	Clinics	5th to 8th
"	Special Pathology and special Therapeutics	5th to 8th
2	Diseases of Children and children's clinics	7th and 8th
1	Laryngology	"
1	Electro-Therapeutics	"
1	Insanity	"
1	Clinic of Insanity	"
	OBSTETRICS.	
1	Obstetrics	5th or 6th
1	Practice in gynecological examinations	5th or 6th
1	Obst. and gynecolog. clinic and polyclinic	5th or 6th
2	Obstetrical operations	7th and 8th
1	Diseases of Women	6th and 7th

Medical Jurisprudence, State Medicine, History of Medicine and Public Hygiene are taken in either the 7th or 8th semesters.

During the last year the required number of semesters has been changed from eight to ten, and more time is devoted to clinics and practical courses.

Study in Europe also replaces hospital experience, which it is desirable that a student should have after completing his course of studies at a medical school, and before entering upon practice. The interne in American hospitals in watching cases from day to day obtains a certain amount of experience, self-confidence and practical acquaintance with disease which he cannot obtain by merely attending clinics and observing patients in whose treatment he has no responsibility or concern. In the German medical clinics this experience is gained as follows: The students are divided into two classes; auscultants, who merely examine patients after the physical signs have been pointed out, and prakticants, who examine cases, make diagnosis and suggest treatment before the class and professor, who criticizes and makes suggestions to the prakticant, of which the whole class gets the benefit. This does not complete the prakticant's examination of that case, for he is required to follow its course from day to day in the wards, and at a special hour appointed for the purpose (Referatstunde) report the progress, symptoms, physical signs, and treatment and reasons for it, to the professor; and in important cases to give the entire clinical history on paper, embracing temperature-chart, pulse, respiration, physical signs, microscopic and chemical examination of the urine, sputa, etc. Here at Göttingen the prakticant also makes the post mortem, if the case proves fatal, under the direction of Prof. Orth, and he must tell all he knows about the pathology of the case and its relations to the symptoms, the Professor following with a discussion for the benefit of the whole class.

Prof. Ebstein's clinic is very popular among the students, the strong feature of his clinic being his method of discussing the symptoms and summing up a case in arriving at a diagnosis. The medical polyclinic, or out-patient clinic, is conducted by Prof. Damsch, and offers excellent facilities for pactice in physical diagnosis. Here the prakticants visit and treat the patients at their homes, under the general control of the professor. Prof. Rosenbach has a fine surgical polyclinic, and prakticants make the minor operations.

Methods of examination, surgical and obstetrical clinics and polyclinics, anatomical instruction, etc., in my next.

OTTO W. FENNEL, M. D.

Society Reports.

ACADEMY OF MEDICINE.

Meeting of May 26, 1884.

W. H. WENNING, M.D., *Pres't in the Chair.* G. A. FACKLER, M.D., *Secretary.*

DR. RAVOGLI read a paper on "Area Celsi." (See page 753.)

DISCUSSION.

DR. STEWART remarked that the author of the paper had evidently studied this affection thoroughly. If the literature of the subject be consulted, it will be discovered that very little is known of its ætiology. Hence anything that points to the cause is of value. Dr. Ravogli has made his investigations carefully and written thoughtfully. The question arises, does the parasitic origin explain the symptoms? Is it not characteristic of parasitic affections that more or less excoriation and inflammation is produced in the parts attacked? Suppose this to be a parasitic trouble, does this explain the condition of the parts, why we have at different portions of the scalp a dropping out of hair and a growth of new hair without much change in the integument? Nothing is noticed but a pallor of the skin. If it is a tropho-neurosis, why these localized spots of baldness? Do they follow the nervous distribution of the scalp? This, by investigation, is not proven a fact. Why should there be a stoppage of supply to these spots? Neither of these views offers satisfactory evidence. Is it not possible that we combine under the same term different forms of the disease, since some authorities claim a parasitic and others a trophic-neurotic source. In the specimen presented there is evidently a growth present about the root of the hair. That it is what the author claims, is not proven. Dr. Ravogli in his experiments has dissolved off the epithelium, and hence we have remaining what has not been attacked by the caustic potash. Speaker is inclined to think that Dr. Ravogli has demonstrated his point.

Dr. Juler said that the subject is a familar one to him. Dr. Ravogli had gone into the history of the disease. Celsus had described several forms of areata Celsi, diffluens, serpens, etc. At this time, certainly, none of those were ascribed to a parasitic origin. Many years ago speaker had read a paper endeavoring to show that many skin diseases were due to nervous lesions.

While in the surgical chair at the Western clinic, speaker had been approached by Davis Hogg, who tried to inveigle him into microscopic investigations of the diseases of the hair. He, however, begged to be excused. Hogg then induced Tillbury Fox to enter upon those investigations. The latter manufactured his observations into a book, and at the time of its publication Davis Hogg likewise threw his manuscript broadcast to the medical world. Fox attempted to demonstrate the identity of the trichophyton tonsurans with ringworm. Speaker has had cases under observation in which the entire body was deprived of its hair. This was notably the case in a boy fourteen years of age, upon whom not a single hair could be discovered. The patient was otherwise in excellent general health. He was under treatment for two years; iron, arsenic and other tonics were given. During this period the only sign of the hair's growth was a woolly appearance of the skin, but an apology for hair, and speaker was deluded with the hope that this was the beginning of a large crop. But his hopes were not realized. He even went so far as to produce a furfuraceous desquamation on the skin from the continued administration of arsensic.

In another patient, the wife of a physician, no hair could be detected on the scalp. The baldness came on gradually, starting at the parietal region, as it generally does. His last case was that of a young man eighteen years of age, who was deaf and dumb. He was in ordinary health, suffering from no nervous diseases. Patient had a bald spot upon the left parietal region and another some distance back, each the size of a dollar. Upon the opposite parietal region a similar spot was noticed. Little treatment is required. Whether the disease is of nervous or parasitic origin, the trouble is evidently at the periphery of the nerves. The peripheral lesions may produce changes in the cord (as in elephantiasis) which are not discernable to the eye. It also produces alterations in the calibre of the capillaries, followed by changes in the nutrition of the parts. It is claimed that falling out of the hair is noticed frequently in children affected with ascarides, and in girls suffering with menstrual derangements.

Treatment is founded upon attempts to improve the general health, while little is gained by local applications. Hence, he placed his last patient upon bark and iron, instructing him to wash his head with cold water and thus attempt to revive the existing innervation of the nerves. Has no confidence in the application of blisters or of coal oil.

If the trouble is caused by a parasite, what is its character? Investigators may be divided into three classes: 1st, those who have found the parasite; 2d, microscopists, equal in ability to the first, who have never discovered the microsporon, and 3d, a number of gentlemen, who adopt the happy medium, viz.: that in some cases the disease is produced by a parasite and in others not. If the first view is correct, we surely may expect some irritation. Here, however, we have a form of alopecia, which leaves perfectly smooth spots, the hair dropping out like premature decay. Some claim that the loss is due to a development of adipose tissue, a fatty degeneration of the hair. The subject is still *sub judice*. If Dr. Ravogli has discovered a new parasite he will surely have ample opportunities to defend himself from attacks upon his theory.

Dr. Zenner objected to the statement that since there was no irritation there could be no parasite. Because one class of parasites, as the acarus scabiei, produced irritation, we cannot claim that this is a necessary accompaniment of another class. We can certainly suppose that a parasite living upon the root of the hair alone, without attacking the integumentary substance, could be present without manifesting itself by irritation. It is not proven that this disease is due to parasites. They may be present accidentally in many cases and in no direct relationship to the disease. Even if observed in all of Dr. Ravogli's patients, or even if discovered in all cases, we have not sufficient evidence to attribute the cause to them. Its contagiousness is not proven, for the essayist has not artificially produced the disease by transplantation.

Dr. Stewart remarked that the previous speaker drew a comparison between scabies and the disease under discussion. Let him rather compare it with favus or pytiriasis versicolor, for these are of the same class and are accompanied by local irritation. The speaker grants that if this is a new parasite it may act differently.

Dr. Zenner stated that recently it has been claimed that ordinary baldness is due to a parasite, and that by transplantation it has been produced upon animals.

Dr. Juler remarked that an instance is cited of an entire family being affected with alopecia. Another, in which a husband lost all of his hair and his wife was subsequently affected in a similar manner.

Dr. Ravogli, in conclusion, said that in three cases he examined the hair thoroughly and in each case a kind of cryptogam was found. It is now clear that it is contagious upon different parts of the individual affected, since one spot is attacked after another. It is not difficult to make experiments as to its contagiousness upon different individuals. As related in his paper, the speaker has obtained the most flattering results from inunctions of coal oil twice a day and removal of the smaller hair. Usually, in two or three months, the hair was restored. Internal medicine is useless. In many cases the hair are restored without medication. This may be explained by the supposition that when the hair atrophies and falls off it carries with it the parasite.

Dr. Wenning, the President, inquired whether, according to this statement, the disease was self-limited.

Dr. Ravogli answered, in some cases, as in favus, we have spontaneous recovery, since in this disease the irritation produces suppuration and the spores are cast off.

NEW YORK ACADEMY OF MEDICINE.

Meeting of June 5, 1884.

The President, Fordyce Barker, M.D., LL.D., in the Chair.

A Plea for More Heroic Surgical Interference in Affections of the Brain.

Dr. R. W. Amidon read a paper with this title, in which he sustained his plea by facts based upon a review of the statistics of injuries to the skull and brain. Walsham had collected over six hundred cases in which the trephine had been employed. Over four hundred of the patients died, but an analysis, according to Walsham, showed that only ten and six-tenths per cent. died from the operation itself. Dr. Amidon thought that this percentage was greater than a strict analysis of the cases would justify. He had recently collected one hundred cases in which trephining or similar operations had been done since 1879, the cases being taken without special selection. His conclusions with regard to the cause of death in the cases in which it took place, whether due to the operation or not, were based upon a study of a pathological conditions, the prominent symptoms before and after the operation, the kind of operation, the dressing and subsequent treatment of the wound, and the final result. From these data it had been possible to arrive at pretty conclusive evidence as to the mortality of the operation *per se* as looked at in the light of modern surgery. Of the hundred patients, twenty-six died, of whom twenty-three had at the time of the operation symptoms endangering life, thus leaving only three cases in which the fatal issue could even be remotely traced to the operation.

It would seem that opening the dura mater had led to a fatal issue in a little over thirty-nine per cent., but, if it were remembered that this was accompanied in most cases by laceration of the brain, hemorrhage, and the introduction of a foreign body in exploration, it would be found that the mere opening of this membrane was not responsible for death in thirty-nine per cent. of the cases. On the contrary, an analysis showed that it was the cause of death in only a little over seven per cent. The author then read the history of only one of a number of cases going to show the toleration and reparative power of the brain after extensive injury, and, among others bearing on this point, referred briefly to a case of gunshot wound of the brain under the care of Dr. Fluhrer, who boldly made a counter-opening, probed for and removed the ball, with complete recovery of the patient. He then briefly reviewed the data regarding cranial and cerebral topography, by which alone cerebral surgery could accomplish brilliant results. Neurologists were perfectly sure that there were certain regions of the brain which, when irritated, compressed, or destroyed, would give rise to perfectly unmistakable symptoms. Recapitulating, he said: "We have in trephining an operation proving fatal in only three per cent. of published cases; the operation of opening the dura mater fatal in only seven and six-tenths per cent.; we have in the brain an organ tolerant of injury, and ready to take on reparative process; we possess knowledge, enabling us to tell when certain parts of the brain are diseased, and we have anatomical data enabling us to pierce the cranium to reach those parts."

With regard to the operation, he thought it could be better performed with the dental engine than with the trephine. The principal advantages of the engine were that with it one could cut away as much or as little bone as he pleased, and make the opening of any shape desired. It was specially useful in breaking down the edge of over-riding bone, to allow of the elevation of depressed fragments. The operation should always be done carefully, and we should try to procure only proximal coaptation of the flaps; we should provide for the freest possible drainage, and use cold antiseptic dressings without much compression. He said without much compression, because in one case the operation produced very serious results, which, however, were only temporary. Enjoin the greatest quiet, in a posture to facilitate drainage. Keep up the appetite, and a slightly loose condition of the bowels. In case of a rise of arterial tension and temperature, give jaborandi or aconite to the production of their physiological effect. Quinine and alcohol should be given only in tonic doses. An anodyne was often indicated, but opium or any of its preparations should never be given. To relieve pain, quiet delirium, or induce sleep, use hydrate of chloral in small and frequently repeated doses—ten to fifteen grains every fifteen or twenty minutes until its effects were produced. Quinine and alcohol in large, and opium in any doses would aggravate intra-cranial inflammation when present, and he thought might excite it. These suggestions applied equally well, or with still greater force, to cases in which the dura mater or the brain was accidentally or intentionally invaded.

As to the indications for opening the skull, he mentioned injury of the external vault, provided there were marked cerebral symptoms; compound fracture of the skull, whether there was visible depression or not, or cerebral symptoms or not; and cases in which after the lapse of months, or years even, unmistakable cerebral symptoms following injury of the head. In addition to opening the skull, the dura mater should be opened in all cases in which exploration with the hypodermic needle disclosed products of purulent inflammation or a great deal of liquid blood, and in all cases in which serous superficial lesion of the brain was suspected and could not be otherwise proved. In addition to the bone and dura mater, the brain should be explored delicately with the probe in all penetrating wounds of its substance—punctured, lacerated, or gunshot. Its mass should be invaded, even when superficially intact, by a fine, blunt exploring needle when the presence of foreign bodies or of hidden collections of pus was suspected, and either extraction or evacuation should be made with the proper instrument. Finally, he would state theoretically that a neoplasm of the brain which had resisted medical treatment, continuing to grow and to threaten life, should be excised, for the reasons that it would usually be found to be single, there were seldom secondary deposits, it was usually surrounded by an inflammatory zone of demarcation, and always killed by pressure.

DISCUSSION.

Dr. J. P. Garrish thought the subject under consideration a very important one, and, to encourage the use of the trephine in properly selected cases, he briefly referred to his experience. The first case was that of an epileptic patient, whose attacks dated back five years to the receipt of an injury on the head. He had undergone medicinal treatment at the hands of various physicians. Recognizing a depression in the skull, Dr. Garrish trephined, removed a large piece of the skull, lifted a depressed portion of bone, and the man was completely and permanently cured from the moment of the operation. He had now done the operation in cases of epilepsy five times, and in every instance the patients never had another attack. At the battle of Antietam he found a soldier in the corner of a barn, covered up by straw, who had lain there three days without having been noticed. He had been wounded in the head and was completely unconscious. Dr. Garrish trephined him, and immediately the patient returned to consciousness, and recovered.

Dr. H. D. Noyes spoke of a case in which he opened the skull a number of years ago, that of a patient who had a fistulous tract in the frontal bone which occasionally discharged matter. The patient suffered from great stupor, and the antecedent history pointed to an abscess; there were also three or four fistulous openings near the right orbit. There had been convulsions, and here he would ask whether convulsions did not have a bearing upon the question of the presence of meningeal inflammation. He trephined above the right eye, punctured the dura mater, and let out about three drachms of pus; the patient regained sensibility, and finally recovered completely. Dr. Detmold had even a good while before this plunged a bistoury deep into a brain and relieved an abscess, so that it had been in the minds of surgeons in this country for a long time to perform such operations, but they had been waiting for more definite knowledge regarding cerebral topography. With regard to his case mentioned by the author, he would like to know whether the administration of alcoholics and quinine, with a view to sustaining the patient's energies and keeping down a dangerous rise of temperature, will militate against the chances of the patient's recovery. He thought the question one which really deserved consideration. In the case referred to, it was true that the patient was doing well at the time he was asked to interfere and correct the deformity, and it was probable he might have continued to do well for some time, but he believed the time would have come when it would be necessary to remove the piece of iron in order to preserve life, and, in his opinion, it was quite proper to undertake its removal so soon as the real nature of the wound had been ascertained, and not to wait until symptoms developed demanding its removal, as the chances of recovery then would probably be diminished.

Dr. L. Putzel had seen cases post mortem at Bellevue Hospital in which the condition of the intra-cranial contents was such that one might well suppose the patient would have stood another chance of life had trephining been performed, all other methods of treatment having failed and the patient having been left to die. With regard to the statistics given by Dr. Amidon, he was of the opinion that favorable and not unfavorable cases were likely to be put on record, and thus there would be a better showing for surgical interference than the facts warranted. He thought Dr. Noyes had struck the keynote to the whole question when he spoke of localization. Dr. Putzel thought we did know very much positively with regard to cerebral localization. There was no doubt that we had located the psychomotor centers, and we knew from cerebral topography where they were situated, but we might not be able to tell from the symptoms what part was affected. We might observe, for example, symptoms pointing to a particular surface lesion, but, on operating, or at the autopsy, we might find an internal abscess giving rise to those particular symptoms by cutting across some of the motor fibres before they reached the cortex. There were other cases in which the symptoms did not seem to coincide at all with our present notions of what they ought to be. He gave an illustrative case. We knew only positively with regard to the motor centers. He agreed with Dr. Noyes that where there was a fistulous opening communicating with the outside it was perfectly proper to probe and try to find out the real condition of affairs. But it seemed to him that, before it became justifiable to make a cutting operation into the brain, our means of diagnosis should be further advanced. With regard to the question raised by Dr. Noyes, he did not think it was positively decided that it was improper to give alcohol and quinine in the condition mentioned. If there were any danger of the patient's dying of heart failure, the use of alcohol was indicated. As to giving hydrate of chloral every ten or fifteen minutes, in some cases it might require an hour for the drug to produce its effect, and, given in this manner, too much might be administered before its effects became apparent.

DR. AMIDON agreed with Dr. Noyes and Dr. Putzel that we did not know definitely the effects of quinine in these cases. But in a patient suffering from galloping consumption he gave from forty to fifty grains of quinine a day, and the girl had suddenly marked rise of temperature, chills, very severe frontal headache, ptosis on the left side, external strabismus of the same eye, and paralysis of the lower facial muscles of the left side, and was delirious for three days. The quinine was stopped, iodide of potassium was given in large doses, and she recovered, but afterward died of the lung affection. At the autopsy the only lesion in the brain was simply a little opacity of the pia mater at the base of the brain, and it had been his impression that there had been slight basilar meningitis, the result of the administration of quinine, from which she entirely recovered. He thought that Dr. Noyes was perfectly justified in the treatment adopted in his case. He thought Dr. Putzel had not understood his remarks about cerebral localization; otherwise he would have found them more nearly in accord with his own views than he had supposed.—*N. Y. Med. Journal.*

THE ILLINOIS STATE BOARD OF HEALTH is now engaged in revising the Register of Physicians preparatory to publication. Any changes or corrections should be promptly sent to the Secretary. Lisus of the officers of medical societies in the State are also requested.

ACADEMY OF MEDICINE.—At the next meeting, Monday, June 23rd, Dr. D. S. Young will report the progress of cases of gunshot wounds occasioned by the late riot.

GIBERT'S PILLS OF RED IODIDE OF MERCURY.

℞. Biniodide of mercury gr. i ss.
Iodide of potassium gr. lxxv.
Pulv. acacia g. vijss. M.

F. S. A. twenty pills. Two of these pills contain one-sixth grain of biniodide of mercury.—*Medical Age.*

THE CINCINNATI
LANCET AND CLINIC
A Weekly Journal of
MEDICINE AND SURGERY.
ISSUED EVERY SATURDAY.

TERMS, $3.50 PER ANNUM IN ADVANCE.

☞All letters and communications should be addressed to, and all checks, drafts, and money orders made payable to
DR. J. C. CULBERTSON,
EDITOR AND PUBLISHER,
281 W. 7th STREET, CINCINNATI, OHIO.

SUBSCRIBERS TO THE LANCET AND CLINIC who have not already remitted their subscription will confer a favor on the publisher by promptly doing so

Cincinnati, June 21, 1884.

Translations.

THE PRESENT STANDING OF PLASTIC OPERATIONS IN SURGERY.—Translated for the LANCET AND CLINIC from *Weiner Med. Wochenschrift:*

Uro-Genital Organs. — "Postheoplastic" has been pretty thoroughly described by Dieffenbach and since this class of cases are quite rare little opportunity is afforded for extensive observation. Czerny published an exhaustive treatise on the care of fistula of the penis, but this hardly comes into the domain of plastic surgery. Considerable advance has been made in the relief of congenital epi- and hypospadias. Dolbeau and Nélaton recognized that the proper method of treatment was to close up the opening by portions of integumentary structure from the scrotum or base of the penis. The results of this procedure were quite unsatisfactory. Thiersch finally published a plan of treatment for the relief of these cases which is as nearly perfect as an operation can be. He first establishes a urinary fistula in the perineum, so the irritating effects of the urinary secretion is done away with. A portion of the integument is taken up, which has its base along the free margin of the opening or false canal; the base remains adherent, while the apex is turned over so as to turn the epithelial surface of the skin into the lumen of the canal. A portion of the integument is now taken from the opposite side, which has its apex near the margin of the canal; it is turned exactly over the former flap, so as to bring the two raw surfaces together, thus forming a covering for the first flap. It may become necessary, if the epispadias is extensive, to make a series of operations until the opening is finally closed up. This operation has been endorsed by surgeons everywhere. Lücke, Esmarch and Lossen have reported some very remarkable results.

Myoplastic.—Dr. Glück has recently made some experimenis in the transplantation of muscles, with satisfactory results. Dr. Helfrich reported a case where the greater portion of the biceps brachialis muscle had to be removed on account of its involvement in a large fibro-sarcoma. The gap thus made Helfrich filled by removing the biceps femoris of a dog, and fastening the extremities to the remaining stumps of the tendons. The wound healed beautifully after a small piece of flesh had been thrown off. Active and passive movements became normal, and electric excitation caused contraction. Quite a number of objections have been raised against this report. It may be possible that a number of fibers of the original biceps were not removed perfectly. The electric excitation might have been due to the action of the current on the two genuine muscle extremities. On the whole, no definite conclusions can be reached at present on this operation.

Dr. Heuk reports a case from Czerny's clinic, where after a rupture of a tendon in the hand the cut extremities could not be brought near enough together to unite them by means of a suture. The upper extremity of the tendon was split, 'severed above, and turned down and united to the lower extremity. The result was quite satisfactory.

Jan. 15, 1884, Prof. Glück exhibited a patient where the extensor tendon of the index finger was cut and the extremities had separated 8 ctm. A connection of 8 catgut ligatures was made between the cut extremities. The catgut was not resorbed, and since then has effectually formed a connecting link between the two cut ends of the tendon, with almost perfect function.

Osteoplastic.—Physiological experiments have demonstrated the possibility of small pieces of bone becoming united to neighboring osseous structures, especially by the aid of the periosteum. Practically this discovery has been applied but a few times on man. The procedure has been successful even where the transplanted piece of bone was devoid of periosteum.

Another step forward has been taken by Paul Bruns, who has demonstrated that the medullary substance of the long bones has the power to grow osseous tissue, but little or no practical use has been made of this fact. MacEven has made use of the anaplastic production of bone in an instance where a considerable portion of the humerus had been destroyed. He put in a number of wedges of human bone covered with periosteum, and finally succeeded in restoring the entire humerus.

Nussbaum was quite successful in restoring an elbow joint atter a gunshot injury which caused a false joint in the ulna. He sawed a piece of bone from the upper stump; turned the upper end downward so as to lap over the lower stump, the graft remaining connected by a bridge of periosteum from the upper shaft as a source of nutrition. The three pieces were firmly united, and the result was perfect bony union. Undoubtedly this department of surgery will advance with gigantic strides during the next decade.

Resorcin in the Treatment of Intermittent Fever.—(From the *Prager Med. Woch.*) Since the reports on the action of resorcin have been so different in various cases, the history of the following case may be of interest. Some observers report excellent results, while another meets with nothing but failures, thus showing quite a diversity of opinion.

A school teacher, while obtaining his history, informed me that for the past ten or fifteen years he has been so unfortunate as to be compelled to teach and live in buildings that were situated near a cemetery. As a result of breathing the mephitic and impure atmosphere, especially before every change in the weather, he would lose all energy, become despondent, and weak. Later such symptoms as loss of appetite, chilliness, insomnia and an oppressive feeeling in the left hypochondrium became associated with those already mentioned. Not unfrequently he was confined to his bed. The disease in this case was not recognized by a number of physicians until a certain regularity became manifest, as to the time of the appearance of the symptoms; then the diagnosis of intermittent fever of the quotidian type was made. Quinine, which had been given frequently in large doses had little more effect than to disturb digestion still more.

The oppressive feeling in the left hypochondrium was due to dilatation of the stomach and enlargement of the spleen. The patient often complained of vomiting, therefore his stomach was washed out with a solution of Glauber's salts. This improved his condition, but not until his stomach was washed out with a five p.c. and ten p.c. solution of resorcin did the quotidian type of the disease disappear. All treatment was now purposely suspended, and in two or three weeks the patient had another attack. He now received during a whole week, resorcin in doses ranging from one to five grammes. After complete recovery small doses were continued at long intervals in wine. Although a few years have elapsed, patient has continued to remain perfectly healthy.

T.

Selections.

MEDICINE.

Compound Syrup of Morphine, (Jackson's Cough Syrup).—This is a favorite remedy with many physicians in this city and vicinity and the formula for its preparation is well known to our local apothecaries, but we have reason to know that in some localities, perhaps many, it is unknown, and certainly unused by either the medical profession or pharmacists. It is not mentioned in the United States Pharmacopœa, The United States Dispensatory, or National Dispensatory.

At the recent meeting of the Ohio State Pharmaceutical Association in this city, Prof. J. U. Lloyd read the following paper on its mode of preparation:

"Professor Samuel Jackson, of Philadelphia, enjoyed an extended reputation during the first half of the present century. Several of his favorite prescriptions at one time were of more than local interest, and the mixture now known as Jackson's cough syrup, or compound syrup of morphine, has long been a favorite with many persons in all parts of the country.

That it is still celebrated is supported by the necessity for a query such as heads this paper, and from the fact that no work on unofficinal formulas is complete without a recipe for making this preparation.

It is unfortunate that so many different formulas are extant, all of which can not be the authentic one of Dr. Jackson. Several are published, and it is not infrequent for some local pharmaceutical or medical association to select one as a standard.

In studying up the record of this preparation, I find that in the *American Journal of Pharmacy*, 1852, page 34, Mr. A. B. Taylor published a formula. Mr. Taylor states that "Dr. Jackson has furnished us with the following receipt," and I am therefore of the opinion that this is the original formula:

℞.	Sassafras pith	ʒ 1.
	Gum arabic	℥ 1.
	White sugar	av. ℥ 28.
	Muriate of morphine	grs. 8.
	Water, q. s. or	O 1.

The sassafras pith and gum arabic are to be put into the water and allowed to stand ten or twelve hours, with occasional stirring. The sugar is to be dissolved (cold) in the mucilage thus obtained, which, after being strained, should be made to measure two pints by the addition of water. Lastly, the muriate of morphine is to be dissolved in the syrup. This syrup contains one-fourth of a grain of muriate of morphine in each fluid-ounce, and is given in doses of one teaspoonful every two or three hours, according to circumstances."

In 1856 Mr. Frederick Stearns communicated to the *Journal of Pharmacy* (p. 205) another formula for making this substance, and stated that it was in local use in his neighborhood (Detroit). The formula presented by Mr. Stearns contained:

℞.	Ipecac	℥ 1.
	Senega	℥ 3.
	Sugar	℔ 2.
	Sulphate or muriate of morphine	grs. 16.
	Sassafras oil	♏ 10.
	Water, q. s. to make syrup	O

It will be observed this process differs from the one offered by Mr. Taylor in containing twice as much morphine, and oil of sassafras instead of sassafras pith, as well as in the addition of ipecac and senega. In fact, the only items in common seem to be the water and the sugar.

Now, I shall introduce a formula that I have used, not that it is authentic or yields a better preparation than others, but because it found a position in my early work, and was given me by one whom I considered likely to make a judicious selection. I refer, to the late Professor Wm. B. Chapman, of this city, and the following recipe was the one he used:

℞.	Muriate of morphine	grs. 40.
	Syrup of ipecac	fl. ℥ 8.
	" rhubarb	fl. ℥ 15.
	Simple syrup	fl. ℥ 57.
	Oil of sassafras	*m* 96.

Dissolve the muriate of morphine in a little warm water, add to the mixed syrups, and then add the oil of sassafras, shaking well together.

It is certainly desirable that there should be uniformity in the dispensing of a liquid that contains so much morphine. In conclusion, I feel, however, that we may unite upon one phase of the subject and secure a uniformity regarding the principal constituent—namely, the morphine. Let it be understood that, whatever may be the nature or proportion of the other ingredients, we all unite upon one amount of morphine. I would suggest that the proportion be made one-fourth grain to each fluidounce, which conforms to the original formula of Dr. Jackson, as announced by Mr. Taylor, and to the formula adopted by the pharmacists of Cincinnati and the Cincinnati College of Pharmacy. This formula may well be accepted as the standard. It is as follows, kindly furnished by Dr. T. L. Greve:

JACKSON'S COUGH SYRUP.

(Comp. syr. morphine, formula of the Cincinnati College of Pharmacy.)

℞.	Fluid extract of ipecac	ʒ ½
	" " seneca	℥ 3
	" " rhubarb	ʒ 4
	Sulph. morphine	grs. 8
	Oil sassafras	gtts. 32
	Simple syrup, q. s. to make	O 2.

A New Line of Research for Cerebral Physiologists.—It is one of the postulates of the new cerebral physiology that every member or organ has its representative centres in the hemispheres. The advocates of cerebral localizations have, with great definiteness, mapped out on the convolutions, centres for movements of the eyes and mouth, extension or flexion of the arm and hand, complex movements of the thigh, leg, and foot, etc., and the organs of special sense, and even the viscera are believed to have an intimate relation with certain cell groupings in the hemispherical ganglia. The facts on which this doctrine is founded are already sufficiently known through the writings of Ferrier, Charcot, and others. We wish to call attention to-day to one line of research which may possibly be fruitful in results of great corroborative value as far as the localization theory is concerned. If, corresponding to the members of the body, there are certain positive differentiated cortical foci, then must lesion of those members have some disturbing influence on their encephalic representatives, and suppression or removal of the former will be likely to be attended with atrophy of the latter. Facts confirmatory of this way of thinking are yet few in number. A case is recorded by Sander in *Centralblatt* for 1875, in which the loss of a limb was accompanied by marked wasting of the corresponding motor region of the cortex. Similar observations have now and then appeared in other journals. Some of these are, however, discordant, as is the case reported by Luys, where the atropy occurred in a region of the cortex to which motor functions are not assigned.

Recently Raymond, of the Hospice des Incurables, has communicated to the *Progres Medical* the details of a case which is a contribution of some value on the positive side of the question. It concerns a patient aged thirty-one, who died in the Dieu of tuberculous meningitis. Eleven years previously this patient had undergone amputation of the arm at the shoulder. The meningeal tuberculous disease from which he died was consecutive to chronic pulmonary phthisis. The autopsy revealed the ordinary lesions of granular meningitis, but the striking feature, and that which makes it of interest in this connection, was the existence of pronounced atrophy in the right hemisphere of very portions of the convolutions bounding the fissure of Rolando (ascending frontal and ascending parietal) to which have been assigned by Hitzig, Ferrier, and other recent experimenters the psycho-motor direction of the left upper extremity. The atrophy, it is true, was somewhat more extensive than the area pertaining to these centres, and the shrinkage of the superficial zones was more marked in front of than posteriorly to the fissure of Rolando, but the fact remains that there was found deficiency, as if by want of development or atrophy, of the supposed centres of all the movements of the left arm, forearm, and hand. No degenerative lesion or asymmetry of any other portion of the cerebro-spinal axis was noted.

It must be confessed that the evidential value of this observation, as of others of a like nature, needs qualification by the doctrine (if true) which has been formally stated by M. Fere, that the opposite lobes of the cerebral hemispheres are habitually asymmetrical.—*Boston Medical and Surgical Journal.*

THE ZOOLOGY AND BOTANY OF DISEASE.—Natural science is more and more revealing to us how the history of life is that of contention, amid its various forms. Biology is showing us that all life has associated relations. It is not always to be called, perhaps, a contention or a survival of the fittest, since there is often a conservation by which the true welfare of all true life is promoted. Not only are lower forms of life destroyed in order to preserve higher lives, but the life seems often to come to the rescue, as a means for the disposal of that which would otherwise be injurious to our existence. It is not only that life, as we find it in the vegetable world, is correlative to or promotive of animal life, or that animal life in its decay promotes the activity and product of the vegetable. The history of disease is more and more showing itself in this wise. A system in some way gets out of repair. Instead of the contending forces being merely casual or mechanical, they promptly become such as are caused by the invasion of a new life, which, in these changed conditions, finds a befitting soil for its development.

Long years ago but a single disease was recognized as the result of an insect. It was hailed as a great discovery when it could be shown that the itch is the result of an irritation caused by a foregin body in the shape of a minute animal, which made its depredations just beneath the skin and chose for its chief points of rendezvous the close vicinity of joints or subjacent skins. But Cobbold and others have worked on with the microscope and some other aids until about sixty diseases are directly traceable to insect life. Perhaps of those the trichinæ are the most wonderful, since we are able to trace them through all the stages of development and in different animals until, in man, we come to recognize the animal change and multiplication and migration which fills the whole body with rival life, and makes that which is higher in quality succumb to that which is greater in quantity. It is now no longer satisfactory to pronounce as to many diseases until this part of etiology has been thoroughly explored and until, by the method of exclusion, we are able to say of this or that symptom, or of the aggregation of symptoms, that they do not result from any activity of a lower animal life. The same is true as we pass into the still broader fields of plant-life. When we speak of the germ theory of disease, we may at once take it for granted that the allusion is to some form of animal vitality or to development thereto. But the fact is, that nowadays the great contention between life, disease and death has to do with plants. Whether we speak of spore, of fungus, of bacteria, of microphytes or of other low forms of existence, it is generally with botanical facts that we have to do. It is, therefore, not surprising to find that the earliest students of this subject, and the earliest successfnl investigators were botanists. Hallier was a botantist. W. Thome worked in the same line. Pasteur owes his eminent success mostly to the fact that he commenced with yeast, and studied for years the various fermentive processes dependent upon vegetable life. And thus, as these studies have been pursued from one point to another, it has been demonstrated beyond question that there is a plant world, too small for the human eye, some of which the microscope reveals, which has thousands of forms, each knowing its own soil. Unfortunately some departure from the normal constitutes the chosen nourishment for each of these forms, and so, in the sudden and rapid growth thereof, we have the actual manifestation of various diseases. Sometimes it would seem that the plant is itself deadly—like a upas tree, poisonous in itself, and, if only it can get headway, is sure to blast the life which it has invaded. In other cases the rooting out of the first life is a slower process, but yet inevitable unless the check is applied. We have already singled out and classified this lower life enough to show that there is a disease botany of the future as intricate as was that of the life botany of the vegetable world a hundred years ago. It admits of the same kind of minute study and intricate classification, and, because more imperceptible, will take longer for its progress into a complete system. Already we are able to mark some of the lines of progress and to give outlines, which must be filled by the closest inspection and care.

The rapidity with which these low forms

of life develop is something marvelous. If there is not blasting in the start the progress is often terribly rapid. It is now known that we have death occurring by the mechanical obstruction resultant from the rapid multiplication of the plants or particles which thus clog up the blood paths and cause death of parts as if by plugging or strangulation. In the preventive dealing with disease it is often of the first consequence that the plant be made to wither at its first sedation, or that the place on which it would alight be made inimical to its life. We shall yet reach the period when the minutiæ of the infinitesimal zoology and botany of disease will be so accurately set forth, and the details of sterilization so accurately given, that we shall know how to exhaust the soil or so to prevent the implanting as to leave life free from such risks. Not that the way is not intricate, and perfect success impossible; but there is progress of doctrine, progress of minute study; and with it will be progress for the welfare of human life.—*N. Y. Independent.*

A WORD ABOUT ONE PHASE OF FEVER.—By J. Mortimer Granville, M.D., M.R.C.P., in the *British Medical Journal*:

Whatever may be the nature of the materies morbi of Typhoid or Continued Fever, it cannot be doubted that its first attack on the previously healthy but now infected organism, is directly upon the nervous centres. We may infer the precise *locale* of the onslaught from the symptoms. Particularly those centres, whether cerebro-spinal or ganglionic, which preside over and, in truth, perform the functions of alimentation, comprising digestion, absorption, circulation, assimilation, disassimilation, and excretion, are affected. One of the first objective symptoms is acceleration of the heart's action, which, I take it, is due to the suspension or partial arrest of the inhibitory control of the vagus, a property it owes to the filaments it receives from the spinal accessory. The respiratory centre is also set free, and the movements of the lungs become more rapid, not merely in consequence of the heart's quick movement, but from the same cause which accelerates the speed of the central organ of the circulation, namely, *defect of control.* The heat of the body increases, and diarrhœa occurs, both presumably due to the arrest of function in the sympathetic, and local congestions occur from the same cause. Not to go into detail, which would only be to waste space, it may be briefly asserted that the phenomena of fever are, at the outset at least, those which we should expect to be produced by any force or influence which gave, as it were, a staggering to the principal nerve centres of organic life. As a rule, the first effects of the accession or attack of fever pass off within a few hours, though not until they have been replaced by other results of the malady, which serve to perpetuate some of the earlier symptoms, notably the quickness of the pulse and the high temperature. Sometimes, however, it happens that the nerval or primary nerve-stage, or phase, of fever is prolonged, placing the life of the patient in imminent peril in the first few days, or even hours, of the illness, and throwing the practitioner on his beam ends as to treatment. What is to be done when we find ourselves face to face with this formidable danger and difficulty?

The patients who are placed in jeopardy, and too often die, in the accession-stage of fever, are not infrequently the very last we should have expected to succumb. They are often young and vigorous, and apparently have had nothing previously the matter with them. They are, however, nearly always *neurotic*, in the received acceptation of this term, and often consitutionally excitable, to the extent of exhibiting hysterical phenomena; but their general strength is not impaired, and it is all too early in the disease to think seriously of a fatal termination, yet they are gone like the flame of a candle before a puff of wind, to the horror of their friends, though not necessarily to the discredit of the practitioner. When a patient who has just been attacked by fever suddenly sinks almost without warning, there is no time to cast about for modes of treatment; we need to be prepared and able to act at once. It is useless to rely on alcoholic stimulants. I believe these not only fail in such an emergency, but often do mischief by exhausting the nervous energy, presumably by over-stimulation of the nerves-centres, just as a fainting horse may be done to death by a careless driver or with a persuasive whip. An effort is made, but the life is pumped out in making it. As to food, the digestive and assimilative functions are in abeyance, or nearly so; and if we hunt the materia medica through, it is doubtful whether we shall find any remedy which will act precisely in the manner required and with needful celerity. If the vital force be not sufficient to resist the "nervous shock" of the poisoning, the patient must die, not of the disease, but of the great nerve-depression produced by its onslaught.

The suggestion I have to make may be made in a few words, and it will, I think, at once strike the practitioner as both rational and practicable. I recommend that, in the face of this instant peril of death from nervous depression in the first days of fever, recourse should be had to the *bain electrique*, or electric bath, the bed being insulated, which is readily effected by moving the bedstead a few inches away from the wall, and, in doing so without in the least degree disturbing or distressing the patient, placing the castors on small pieces of plate glass. The prime conductor of an electric machine is then to be brought into contact with the patient, perferably over the solar plexus as the centre of the sympathetic system, and the body charged with static electricity. The effect will be to *neutralise the depressing effects of the poison*, and to enable the patient to tide over the premature crisis, which, if life can be prolonged, will be found to pass in a very brief period.

I must content myself on the present occasion with a simple statement of the plan of treatment, only adding that I believe the way static electricity acts is to conserve the nerve-force, which is the strength of life, in the centres; at the same time sensibly relieving that most distressing feeling of exhaustion, which is, in itself, a fruitful source of mischief in the emergency—by the mental depression it produces, and the consequent loss of the aid of the cerebral centres in prolonging life. It is probably needless to point out that the patient can be fed with a wooden spoon or porcelain feeder, ordinary care being taken not to make contact, by any conductor, with the ground. Obviously, this suggestion only relates to an adjunct to the treatment of fever, in an emergency which arises in no small proportion of cases, and which is most embarrassing to the practitioner, as well as perilous to the patient. It is, however, of more than sufficient promise to warrant a trial.—*Brit. Med. Jour.*

TINEA VERSICOLOR, OR LIVER SPOTS.—The lesions consist of variously sized hyperemic reddish and yellowish patches covered with furfuraceous scales. The patches are not raised above the surface of the skin and cannot be felt by passing the hand over them. Where they are not scratched the surface has a glazed appearance in obliqe light. The affection is confined to the chest and back, and is caused by the growth of the fungus *microsporon furfur*, which develops in the horny layer of the epidermis, producing the pigmentation and desquamation. The fungus may readily be seen by treating some of the the scales with a drop of liquor potassæ on a slide, and submitting them to microscopic examination. The disease is more common on debilitated subjects, although it is met with on the strong and robust. A characteristic of the disease is its tendency to relapse even in spite of the best treatment, and this is often seen in private practice where the patient takes the greatest care of himself.

The treatment is not difficult. The sulphur preparations are all useful, such as hyposulphite of soda one drachm to the ounce of water, or Velminckx's solution, which is prepared as foliows:

Quicklime,	½oz.
Flowers of sulphur,	1 oz.
Water,	10 ozs.

Boil down to six ounces and filter. Perfume with oil of anise.

This may be used diluted with four to eight parts of water, to be dabbed on the patches after a bath with soap and water. At the end of a week scarcely a sign of the disease will remain, and at the end of two weeks a cure may be effected. The result depends largely on the manner of making the applications.—*Medical and Surgical Reporter.*

TREATMENT OF NEURALGIA BY INJECTIONS OF OSMIC ACID.—Eulenberg was induced by the results obtained by Neuber to try this method on a larger scale. Delbastaille had previously employed parenchymatous injections of osmic acid in the treatment of tumors, especialy sarcomata and scrofulous lymphomata. Neuber later used similar local injections in three cases of obstinate neuralgia, one trigeminal and two of sciatica. All three were cured. Eulenberg used the injections in twelve cases, which were mostly recent and not unusually severe, and included neuralgias of the upper and lower extremities, of the head and lumbar region. The treatment was continued from one to six weeks; the number of injections in each case varied from three to fourteen, the total number of injections being eighty-two. The injections were made into the neighborhood of the diseased nerve, if possible into the connective tissue surrounding the nerve. Of the twelve cases only three were considered cured—no return of the pain in from twelve to fourteen weeks; four were somewhat improved; five unaffected. The usual dose was ·005 of a gramme.

In a second series of seventeen cases the result was about the same.—*Berliner klin. Wochen.*

METALLO-THERAPY IN THE TREATMENT OF OCULAR AFFECTIONS.—Under this heading Drs. Arthur Johnstone and Webster Fox publish three cases of "hyperesthesia of the retina complicated with neurotic symptoms." This seems very much like the tail wagging the dog, as the first and third cases were undoubtedly neurasthenia, and the second hysteria with hemi-anesthesia, the eye symptoms being part of the general condition. However, the results obtained by the authors were striking and interesting, and suggest that metallo-therapy, whatever be its modus operandi, might be more extensively used than at present on this side of the water. The principal eye symptoms observed in all these cases, which were very chronic, were hyperesthesia of the retina and hypermetropia. In the first two cases the defect of vision had been corrected by glasses without effect on the other symptoms. Accordingly resort was had to metallo-therapy after Burq's method. Complete success followed in all three cases.

The logic indulged in (for which not the authors but their "illustrious preceptor," Dr. Burq, is responsible) is a curiosity in its way.

In the first case the patient was found to be "sensitive to steel," and consequently, according to the logic of the metallo-therapists, tincture of the chloride of iron was administered internally. On what principle of philosophy this is founded it is difficult to imagine, but probably, like most philosophy, passeth understanding. However, the result was good, which is the main point. We suspect that this depended more upon moral influences than upon either the physical effect of the steel or the chemical effect of its tincture. As this patient had previously been under the care of ten other oculists, and "at the hands of several went through thorough and varied courses of medication," it would not have been superfluous to have mentioned whether steel in any of its compounds had been prescribed before, though an affirmative answer might have destroyed the delusion as to the method of cure in metallo-therapy.—*Journal of Mental and Nervous Diseases.*

NOTES ON THE ETIOLOGY AND TREATMENT OF TONSILLITIS.—Under this head, Dr. W. H. Dukeman, of Olean, N.Y., sends us a brief communication. Dr. Dukeman thinks that "tonsillitis is a local disease, to which certain persons are predisposed. Its exciting cause is the vitiated air of houses or exposure. Acute attacks can be successfully treated or aborted, in his experience, by aconite and gray powder in small doses. The chronic form can be successfully and rapidly cured by electricity. In chronic cases the aconite treatment is of no avail. I also have tried astringents and escharotics, put my patients on good tonic treatment, and have scarified the glands to relieve the chronic congestion. But the results were unsatisfactory. I then thought I would try the use of electricity, and in this agent I found a remedy which gave perfect satisfaction and speedy cures. I use the galvanic battery, and place the sponge electrode of the positive pole on the back of the neck, and the metal electrode of the negative pole on the tonsil. A mild current is used for five minutes every few days. In some cases where the tissues are much relaxed, I use in connection the primary faradic current."—*N. Y. Med. Record.*

BICHLORIDE OF MERCURY IN FETID BRONCHITIS.—The universally acknowleged power of corrosive sublimate to arrest decomposition and destroy bacterial life would naturally suggest its use in purulent inflammations of mucous membranes so situated as to permit of the local application of the drug. According to Keyes, as we noticed in a recent issue, it is unsuited to the treatment of gonorrhœa, owing to its irritant effects upon the urethra, even when applied in very mild solution; but this is no argument against its utility in inflammations of other less sensitive mucous membranes. Koryányi (*Il Movimento*, March 14, 1884) reported a case of pleurisy and mitral regurgitation, complicated with fetid bronchitis, in which inhalations of the bichloride were used with marked effect. The patient had previously used inhalations of phenic acid and turpentine continuously for four weeks with negative results. He was then instructed to inhale about half an ounce morning and evening of a solution of corrosive sublimate, 1 part to 10,000. At the end of six days he was apyretic, coughed but little, and the expectoration became much less offensive. A few more inhalations sufficed to render the bronchial secretion mucous in character and inodorous. It seems not unreasonable to ascribe the amelioration of the symptoms to the remedy employed, and if further trials of the drug in similar cases are equally successful we shall have gained a valuable point in the treatment of this troublesome affection.—*N. Y. Med. Record.*

TREATMENT OF TETANUS.—Dr. Maragliano, in commenting on a case of tetanus cured by isolation and large doses of chloral, draws the following conclusions in *La Salute*:

1. The patient should be placed in a dark room, which should be noiselessly entered every fifteen minutes in order to give food and drink.
2. The ears should be stopped so that the patient has absolute rest, and the floor should be carpeted.
3. Every three or four hours the patient should take some bouillon, an egg, and a little wine.
4. Pain should be calmed by belladonna, conium or chloral, the last being preferable. *Med. News.*

WHITE LEAD PAINT IN ERYSIPELAS AND SUPERFICIAL INFLAMMATIONS.—Mr. Day, in the *Lancet*, p. 456, 1884, writes that for some months past he has been trying various experiments as to the value of common white paint in the local treatment of superficial inflammations. The most perfect compound is a mixture of white lead, with varnish, linseed oil, acetate of lead, sulphate of copper, and sulphate of zinc.—*Medical Record.*

PARALDEHYDE IN THE TREATMENT OF DELIRIUM TREMENS.—Gugl ("Zeitschrift für Therapie," 1884, No. 4; "Centralblatt für klinische Medicin," 1884, No. 20) speaks highly of the action of this drug in delirium tremens, on the strength of three cases treated with it. In every instance it proved a prompt hypnotic, and in no instance were unpleasant symptoms produced. The dose was usually given with twice or three times the same amount of tincture of orange-peel, with syrup of orange-peel, or in about one eighth of a litre of sweetened water, the whole making a mixture against which the patient's befuddled sensorium did not rebel. The author considers paraldehyde absolutely free from danger, even in doses of six to eight grammes.—*N. Y. Med. Jour.*

SURGERY.

NEOPLASMS FROM A PRACTICAL POINT OF VIEW. — Annual address before the Missouri State Medical Association. By Prof. E. H. Gregory, M.D., President; published in *The St. Louis Courier of Medicine.*

There is a standard body as there is a standard condition of body. A large class of mankind deviate from the standard, having a state of body marked by vulnerability, ordinarily denominated predisposition. In the latter class neoplasms appear. Health implies a definite and easy performance of the vital functions, but disease does not necessarily imply a defective performance of life's processes. Disease means discomfort. What is ordinarily named disease may only indicate the failure of the natural order and the substitution of a new but not unnatural order.

The circumstances and accidents of life introduce the inflammatory process to "avert or repair some greater evil," yet it includes mishaps which sometimes peril life. It is difficult to avoid confounding an increased and intensified action with a perverted process. Inflammation determines neoplastic nutrition, the introduction to injured structures of a greedy new material which consumes and substitutes the primary tissues, which from violence or other injury have fallen short of their purposes in the economy.

Hypertrophy, usually the result of increased nutritive activity, has no palpable neoplasm — but is increased growth of the natural structures. Hypertrophy and inflammation are conservative. The latter meets the emergency of injury by the production, growth and development of a neoplasm; the former through an atomic nutrition, ordinary nutrition increased, by which the elements of the structure are magnified, perhaps multiplied and correspondingly augumented in strength, to make the part or organ equal to the stress of increased function. In the inflammatory process the change is a molecular one, palpable, one of substitution. In hypertrophy there is an atomic addition to the original elements by which they are invigorated, not replaced. Hypertrophy is in no sense a morbid process, but is nature's method of meeting the emergencies of nutrition in the standard body.

Struma is a convenient word for conditions of body apt to morbid processes. Besides constitutional imperfection, there is a local proneness to inflammatory troubles, more or less protracted; the lymphatics, mucous membrane, bones and joints are ordinary sites, the joints particularly obnoxious. Pressure, friction and violence tell upon weak resistance, despoil vitality, and ultimately ruin, necessitating reconstruction by a new structure. Were it possible, by early diagnosis and the co-operation of the patient, to secure the needed rest, nutrition might be invigorated, the necessity for substitution anticipated, much suffering, life peril, deformity and mutilation prevented. It is certainly most fortunate if a suffering part can be restored without the infiltration of an inflammatory neoplasm, yet the saving character of this new formation must impress every thinking mind with its loyalty to the body as a whole, the interdependence of its elements, their perfect harmony, active development, and constant approximation to the structure and purposes of the parts which it substitutes. Tubercle is a neoplasm of irritation. How strikingly these neoplasms just referred to contrast with the tumor neoplasm! Here we have antagonism, indifference or malignity. The elements given to the tumor vice, mutiny and defy the regulating forces of their locality, and contribute nothing to the general economy; nor is there any covenant between their elements. Every particle is a microscopic tumor, their forces are wasted in multiplication, the simpler varieties of tumors approach form but never touch design, and expand indefinitely. In short, vagueness marks every distinctive quality of the tumor neoplasm as compared with the precision and purpose of the inflammatory new growth. Can such an indefinite product with such an indefinite purpose, have a definite cause?

With much trepidation do I indite the paragraph just finished, as my attention is called to the following lines taken from a paper published in a recent number of the *Journal* of the American Medical Association:

"Cancer and tubercle are considered analogous lesions and classed with tumors by a number of pathologists. This fact would not make it inconsistent to call tubercle an inflammatory product, as the distinction between inflammatory processes and tumor formation is a purely arbitrary one. Virchow pointed out that the majority of tumors are purely inflammatory products (a statement antedated twenty years by Professor S. D. Gross). A few years ago I made the question of the ætiology of tumors a subject of careful personal study, which I yet continue, and I am forced to the conclusion that *all* tumors are inflammatory products, and that no line of distinction can be drawn where the process we call inflammation ends and where tumor formation begins."

"The majority of tumors" is a very inexact expression. A tumor is a tumor or it is not. It is certainly not anything else, "by a large majority." What is the cause of the "minority?" We are told that all "true tumors" are inflammatory products, therefore they are the majority. To our understanding inflammation is a definite process; has a definite cause and a definite object. The products of inflammation do not waste their forces in multiplication, but develop a tissue which exhibits its allegiance to the body and the purposes of the part by constantly approaching the perfection of the tissues it substitutes. The inflammatory neoplasm means construction, the tumor neoplasm destruction.

I have alluded to the practical and possible advantage of anticipating and preventing the inflammatory neoplosm. Is there such a possibility with the tumor neoplasm? No! The condition of tumor is only known to exist after it is complete. The teaching of this day is that tumors develop from connective tissue or epithelial tissue, from the organs or higher tissues. The term "develop" is badly chosen. The word implies a change from a lower to a higher organization. The truth is, the tumor vice degrades the moment it possesses a living part. Certainly, "that cunningest pattern of excellent nature" is higher in the scale of physiology than the materials of the most highly organized morbid growth possible. As in the moral order vice degrades, so in the physiological evil denosis is age. Scirrhus and epithelioma appear after middle life; soft cancer in early life; sarcoma in youth, and lipoma and fibroma in the most vigorous periods of life. Angiomas are growths peculiar to childhood. Some months ago a child was sent to me by a physician for cancer of the lower lip. It proved to a be nevus ulcerating.

The age of the tumor has much significance; when of rapid growth it is always suspicious, prognosis bad. Scirrhus is sometimes very slow in the aged, epithelioma the most tardy of all known growths. The distribution of the vessels in the alveola stroma, characteristic of cancer, is held to account for the tardy growth of scirrhus, it being a scar tissue and contracting on the blood vessels, thereby limiting the supply. The fact that epithelioma is almost devoid of stroma weakens the explanation.

The sensible qualities of tumors are of prime importance in diagnosis. The melanomata, angiomata and papillomata when superficial are recognized at sight. Shining, overstretched skin, suggests ulceration. When ulceration is present with thin adherent edges, the growth is simple. When the edges are thick, infiltrated and undermined and everted, the tumor is malignant. Translucency usually denotes a cyst with fluid contents. Solid tumors, myxomata, homogeneous sarcomata and lipomata may be transparent. It will be a serious mistake to suppose all translucent tumors liquid. The size and shape of a tumor has a meaning. Malignant tumors are small; cancer clings to the shape of the organ in which it grows. The female breast is often reduced in size and but little altered in shape by the presence of scirrhus. A smooth surface is suggestive of a cyst, sarcomata are often smooth, fibromata nobby, enchondromata granulated, etc., lipomata adenomata lobulated, and papillomata fissured.

The intelligent handling of a tumor is a great matter. Whether it be cystic or solid is to decide the character of the operation required. Fluctuation is anxiously sought, but like translucency it is deceptive. False fluctuation furnished by elementary succulent growths betrays the most erudite touch. In fact there is molecular shifting in both. The exploring needle alone can decide. Tumors with false fluctuation often pulsate. As the brain and granulation tissue pulsate, so tumors of the same consistence enormously vascularized, likewise pulsate. Associated with the pulsation is sometimes a bruit to complete the deception. I have seen osteo-sarcomata diagnosticated as aneurism. The so-called pulsating tumor of bone is usually sarcoma. Osteo-sarcomata are occasionally crepitant; the cystic variety and the examples with bony skelgtons and cysts with concretions give the sense of crackling.

Relationship to surroundings is never to be forgotten; malignancy and benignancy are thus determined. Mobility is a question of much moment. Relationship to lymphatics and blood vessels must be considered. The vascular stem should be in the mind of the surgeon when the operation is begun. Pain, common in cancer of breast and uterus, is never present in cancer of the face. Tumors of nerves and nerve-sheaths, are often subjectively and objectively painful and affect the function of the nerves at their distribution. Tumors of the neck sometimes involve the functions of the eye, brain, heart, lungs and stomach. The relationship to cavities is important in a diagnostic and operative point of .view. A tumor should be touched at every point of access. The practical surgeon should be an adept in auscultation and percussion, should learn the practical application of the laryngoscope and ophthalmoscope.—*St. Louis Courier of Medicine.*

RELATIONSHIP OF MALIGNANT DISEASE TO THE FOOD AND ITS TREATMENT BY DIET. The *Medical Times* says that in a communication to the Académie de Médecine de Bruxelles, M· Van den Corput made a suggestive reference to the etiology of cancer (*Revue de Thér. Med. Chir.*, Jan. 15). Upon considering the geographical distribution of cancer the author found that it was almost unknown in hot countries, and also among certain religious communities in other latitudes which abstain from the use of meat. The only apparent connection between these two classes is the diet. It is apparently, therefore, to an exaggerated animal diet—which at the same time causes an excess of chloride of sodium in the system—that we must look for the principal pathogenetic cause in the cancerous diathesis. This must reside in an infection of the organism, either by certain nitrogenized products susceptible of disturbing or changing the normal nutrition processes, or by certain inorganic elements, such as the phosphates, capable of favoring practically malignant. Under such circumstances, early removal is late. The gist of the matter is to decide whether the lump is inflammatory or non-inflammatory. The practice is plain—the case supposed to be seen early, before diagnosis can be precise—removal of any tumor at once. Time at last decides the case, the diagnosis and the practice.

I have believed that when the forces of the elements were wholly devoted to cell multiplication, rapid growth is inevitable. The study of cancer has modified the opinion. Celerity of cell multiplication, and, as a consequence, rapid expansion, is peculiar to malignant tumors of the connective tissue type. The slowing of cell multiplication — their forces seemingly turned toward form and construction—approximates the sarcomata to the innocent tumors. The approach to order is a departure from the histological structure peculiar to malignancy. Malignant tumors are always elementary in structure. The sarcomata shade off in their departure from the elementary structure into the fibroma, the most benign of tumors, therefore malignancy is a relative quality of the connective tissue tumors.

Malignancy is an absolute quality of carcinoma. In some of its varieties it is tardy in growth, but never departs from malignancy, nor does it shade off into the benign, but is abruptly limited, never moving in the direction of order, for between epithelioma, which is the least malignant of any of its varieties, and papilloma, there is a missing link. Confusion and disorder of its component elements is as distinctly characteristic in the least as in the most malignant varieties.

The prevalent belief that early removal of malignant tumors affords immunity from return is very doubtful. Infection implies that tumors of this class are never simple,—practically constitutional from the beginning. The interval between the inception and the diagnosis cannot be estimated, not until the tumor nodule is palpable is the condition recognizable. Relatively to prognosis this interval is full of interest, full of peril. The unutilized protoplasm first impressed by the disease may be *in transitu*, nor is the touch a limited one, judging from the fact that the tumor is an infiltration.

Practical principles imply a thorough understanding of all the bearings pertaining to a particular subject. A practical principle is a focal centre where the rays of kindred knowledge meet. The comprehensive study of tumors includes not only a knowledge of tumors genetically related, but also of growths not so related, the so called heterotopic tumors.

The laminæ theory has done much to simplify the subject of tumors; and patient and acute observation with the study of embriology and teratology promises to bring within the domain of practical thought the heterotopic class of tumors. Dermoid cysts, absolutely heterotopic, are most frequently found near the median line of the body, where the median cleft permits the inturning of the common integument; and the frequently observed enchondroma at the angle of the jaw, relatively heterotopic, has its related cleft, making it possible for an element of cartilage from the ear to stray into the common connective tissue. Again as organs, even systems of organs, are sometimes out of place, aberrant elements cannot be improbable; farther, aberrant organs are particularly obnoxious to disease. Couple all these considerations with the fact that heterotopic tumors grow by preference in certain regions, the femoral and sacral regions for example and the practical surgeon can make something more than a shrewd guess at the diagnosis of these growths. Without this knowledge it would be impossible.

Can the practical mind conceive the idea of a tumor vice apart from the existence of a more or less rounded mass? Lipomas, fibromas, and osteomas are occasionally diffused, yet always distinctly localized. Ostitis deformans has been mentioned as a generalized tumor. The doctrine of infection, the indefinite production of non-progressive protoplasmic particles and the intractability of certain general conditions, leukemia for example, together with the insignificance of the intercellular substance, of tumors seems to justify the thought. Embryonal sarcoma and leukemia appear as parallel disorders, the former differing from the latter simply in the aggregation of its elements, both being varieties of lymphomata. Let us return to the practical.

Region is as important in the diagnosis of homologous as in the heterotopic growths. Scirrhus of the female breast, epithelioma of lower lip, fibroids of nerve sheaths and uterus, cysts of the abdomen are so common as scarcely to require mention. Closely connected with region in relation to diagpraves. The tumor neoplasm must originate in formative material. It is not probable that any mature structure changes its mode of life, estranges itself, and severs all connection with its surroundings. Of this, knowledge is impossible, as it starts with the disease after it is mature, the first element perverted being as much a representative tumor as the mass increased to the weight of many pounds, this being but a multiplication of tumors. Extirpation, even of the simplest, must embrace every element, otherwise it will continue to grow. The ablation of but a part of a growth of irritation is followed by cicatrization and disappearance of the remainder.

Is it posssble in practical surgery to confound the growth of two neoplasms which seem so far apart from a physiological point of view? Yes! Enlargement of the glands about the neck, axilla and groin, of structures in the abdomen, about the female breast, about the limbs and vicinity of the joints, seem sometimes puzzling, but the absence or presence of an inflammatory history, time, and at last exploration, enable the practitioner to discriminate. The inflammatory new growths soon attain their maximum, and then decline, contract, disintegrate, or develop, ever tending to a typical termination. The only hope for the true tumor is in extirpation.

How intensely interesting is the fact that the vital elements can change their physiological action without changing their anatomical configuration, the type of the tumor cells corresponding to the type of the tissue elements in connection with which they originate. The interest which attaches to this subject loses none of its "pith and moment" by coupling it with the reflection that hemogenous protoplasms exhibit the diverse functions which in the perfected high organisms are specialized by a complex system of viscera. The act or function exists before the organ to which the function is referred is formed. However, nature is wont to construct special organs for special action. Our knowledge of the physical antecedent is very imperfect, realizing as we do that the palpable introduces us to as much mystery as the impalpable. Certainly the sameness of the anatomy is in strong contrast with the diversity of the physiological action referred to it. But to the practical view. It follows, therefore, that there are tumors of the connective tissue, epithelial tumors, and those of the higher tissues or organs; nor is there any transition of type, for the tumors of the respective structures remain in their corresponding types during their life. Certainly with this view diagnosis is relatively easy, for to know the parent structure is to know the anatomy of the tumor, and as there are but three germinal laminæ for the tissues, so there must be a corresponding limit to the possible varieties of tumors. Again, as the internal and external laminæ are epithelial, the intermediate one connective tissue, it follows that there can be but three classes of tumors, viz.: the epithelial, connective tissue, and growths of the higher tissues, each class presenting varieties representing the series of tissues pertaining to that class. The practical surgeon soon becomes familar with the epithelial tumor, the connective tissue tumor, and the tumor of nerve, muscular and vascular tissues, being assured that the elements of the tumor will represent the elements of the tissues in which they grow, bearing in mind the very important fact that the elementary sarcoma, embryonal connective tissue, the most malignant of growths, is not cancer because infectious, for cancer represents malignancy in the epithelial laminæ.

But for the horror of malignancy, the subject of tumors would be of little practical moment. A lady, from whom I had just removed a small lipoma, said to me, yesterday, "Had I but known its real character, I would have waited long before this trial." Innocent tumors sometimes interfere with important functions, deform, and may grow sufficiently large to subtract too much from general nutrition, otherwise they are practically of little importance.

The practical diagnosis of tumors is easy. Time has determined it in most cases before the surgeon's opinion is sought. Could tumors be seen as soon as the nodule is palpable, the diagnosis might be difficult, perhaps impossible. But what matters it, except for scientific curiosity? The surgical rule to advise immediate extirpation accomplishes all the most enlightened discrimination could suggest. A mass of slow growth, occupying years, not months, distinctly circumscribed, pushing the adjacent structures aside, condensing them into a capsule, must be innocent. A mass of rapid growth, counting months, indistinctly limited, growing into, not pushing aside the neighboring structures, is certainly suspicious, the histogenesis of neoplasms. A confirmation of this view was found in the rapid emaciation of the patients, accompanied by the decreased discharge of urates in the urine. The application of these views to the treatment of cancer is obvious, but it does not appear that the author has succeeded as yet in demonstrating the correctness of his views by clinical investigation.—*Medical and Surgical Reporter.*

IMPROVED ASPIRATOR FOR LITHOTRITY.—Last autumn Sir Henry Thompson made an addition to his aspirator, which appears to be useful. It consists in a light, loosely hanging valve of fine wire, attached by a simple hinge to the end of the evacuating-tube, which terminates within the glass trap of the instrument. When pressure is made on the India-rubber globe, and the current flows by the evacuating-catheter into the bladder, this light valve is driven close to the aperture, and no debris can leave the glass trap. When the pressure is removed, and the current returns from the bladder, the valve floats widely open and permits the debris to enter unchecked. The wire-valve is circular in form, and its border being flat and thin, and about a tenth of an inch wide, is delicately sensitive to movements of the current, and responds to the slightest pressure of the hand on the rubber globe. But he is quite satisfied that with his last published aspirator, as well as with the form now described, no debris returns to the bladder if the instrument is properly used, when, of course, no valve is necessary. Few persons are aware that very slight but quickly made pressure on the globe sufficing to transmit only six or eight drachms of fluid into the bladder, generally removes more debris than a powerful impulse which transmits at one act all the fluid contents of the globe, or nearly so. When employed in the manner last named the valve becomes useful, and only then is it required.

As to the present instrument itself, the form is simple, not far removed from the original pattern of Clover, but with the useful addition of a funnel and stopcock at the upper part of the globe, to facilitate filling with water as well as the escape of air. The glass trap, moreover, is easily disengaged from the globe, by which means the valve, which is sometimes liable to be partially blocked, as when much mucus and fine debris are present, can be easily cleaned. At the same time this blocking of the wire grating of the valve in no way interferes with the competency of its action. It is necessary that the end of the evacuating-tube in the glass trap should have the angular form so that the lower end of the valve, when undisturbed by the current, should not close the orifice, but hang at a considerable distance therefrom.—*London Lancet.*

SUBCUTANEOUS VACCINATION. — In an article in the *Bulletin Gén. de Thérapetique,* April 30, 1884, Dr. Burgeois recommends the subcutaneous injection of vaccine virus. He claims that by this method the number of successful vaccinations is, at least, as great as by the ordinary plan, while the pain of the operation is reduced to a minimum, and the inconvenience sometimes occasioned by a rather profuse oozing of blood is obviated. The procedure is also saving of time when a number of persons are to be vaccinated. He employs a needle of medium calibre, attached to a small rubber bulb, or preferably to a metallic box resembling an aneroid barometer. Two or three drops of virus are used for each injection. The caution is to be observed not to relax the pressure on the bulb until the needle has been withdrawn from the tissues. Two needles may be used when economy of time is an object, one being cleaned by an assistant while the other is in use.—*N. Y. Med. Record.*

TREATMENT OF PERINEAL INJURIES OF THE URETHRA.—Dr. C. Kaufman, (*Centralblatt gesammt. Therap.*, March, 1884), after a general consideration of this subject, draws the following conclusions:

1. In all cases in which catheterization is difficult, or not very practicable, the perineum should be incised, cleaned out and disinfected. In small, transverse wounds, spontaneous union should be attempted; in complete rupture of the urethra, sutures should be employed, so as exactly to approximate the edges. The catheter should only be used during the first few days, and should never be left in the urethra.

2. Treatment with the permanent catheter should be entirely abandoned. Whenever a sign of inflammation appears, the perineum should be incised.

3. Cystotomy, as a method of treatment, should be given up, and only be used in cases of retention.—*Medical News.*

OBSTETRICS AND DISEASES OF WOMEN.

PLACENTA PRÆVIA—A NEW METHOD OF PREVENTING HEMORRHAGE THEREFROM.—A paper read before the Detroit Medical and Library Association, by R. C. HUTTON. M.D., Detroit, Mich., and published in *The Medical Age*.

Science can never regulate the intra-uterine migrations, or avert the casual abnormal implantations of the impregnated ovum, although it is to its irregular and inexplicable fixation that placenta prævia is due. The mal-position of the ovum affords no indication to the patient of its existence, neither to the physician, except through the medium of auscultation, is there any sign, in the early stages of uterine gestation, at least, by which the abnormality can be detected. And even were its diagnosis possible, it would avail nothing toward its prophylaxis; our efforts, therefore, can be effectual only in the direction of measures for the amelioration and possible aversion of its naturally fatal termination.

Hitherto neither the philosophy of the teachers nor the light of experience has relieved the traditional dread that invests the accouchment accompanied by placenta prævia. Nægle says "there is no error in nature to be compared to this, for the very action which the mother uses to bring the child into the world is that by which she destroys both it and herself. Sudden and generally alarming hemorrhage, a few weeks before, or at full term of gestation is about the only pathognomonic sign of its existence." Dr. H. Tyler Smith says "that the discharge commonly takes place suddenly, without pain, and ceases after a while, or the drain may continue for a considerable time. The nearer the patient is to full term, the more violent is the loss of blood. The gush may take place after some unusual exertion, or when the patient is following her usual avocations, or when she is asleep. This loss is sometimes so sudden and enormous that the woman is dead before her medical attendant can be summoned."

A case coming under my care a few months ago was the occasion of a revelation to me of a new method of suppressing hemorrhage in placenta prævia. At 2 o'clock A.M., on the 11th of October, 1883, a messenger, the husband of the patient, with a face expressive of great alarm and distress, in broken and almost breathless speech, said, "Doctor, I want you to come to my house as quick as you possibly can, my wife has just woke up from sleep, flowing terribly. Come along with me just as quick as you possibly can, I am afraid she will die before we can get there." He explained that his wife was pregnant, but did not expect to be confined for four or five weeks yet. The diagnosis was immediately settled in my mind. It was not a time to stand on the order of going, and I went at once. Arriving at the bedside of the patient I found her very pale, with a feeble and frequent pulse. She was of American birth, age about thirty-five, of nervous temperament, vivacious and hopeful. This was her fourth pregnancy. A cursory inspection of the bed showed that she had lost a great deal of blood. Digital examination per vaginam discovered the os uteri dilated about half an inch, but quite rigid. Marginal attachment of the placenta, vertex presentation and membranes intact, were diagnosed. Considerable loss of blood occurred during the examination, but it presently ceased.

Concluding to employ an aggressive as well as a defensive treatment, so soon as circumstances indicated the best mode of procedure, I determined, notwithstanding the undilated and apparently undilatable condition of the os, to administer ergot as an oxytocic and accordingly gave a drachm of the fluid extract.

While directing the details of some general arrangements, and some twenty or thirty minutes after my arrival, another gush of blood occurred. During this the patient exclaimed, "I am dying," and immediately nearly fainted. The indications plainly were that interference could no longer be delayed, the situation was already alarming. I ordered stimulants given and the foot of the bed elevated. Dilation of the os by force, turning and speedy delivery, or the temporizing and, to my mind, unscientific tampon, were the only alternatives recognized by the authorities. I was averse to both of these, though it was clear to my mind that something would have to be done immediately, for if another considerable hemorrhage should occur, the scene would close with the death of my patient.

At this juncture the thought flashed into my mind that if I could keep the uterus firmly and continuously engaged in the brim of the pelvis, by pressure over the fundus and by counter pressure against the margins of the os, I could control the loss of blood. Therefore with the fingers of my right hand against the os, and my left hand and forearm embracing the fundus, I commenced to "hold the fort," and as I was without competent assistance, and my new theory had not yet been put to the test, I sent for my friend and neighbor, Dr. W. H. Poole. While the messenger was absent I directed an attendant to administer milk punch and another teaspoonful of the fluid extract of ergot. The milk and whisky seemed to have the desired effect of reviving the patient. She rallied well, and labor pains soon grew strong. After a time I succeeded in rupturing the membranes with my finger nail. The rupture was followed by a slight discharge of amniotic fluid.

No hemorrhage occurred after the pressure was applied to the fundus, and it was maintained continuously, either by myself or an attendant, the patient bearing it without complaint or inconvinence.

My interest in observing the progress of labor in this case was quite unusual. The combined influence of ergot and the expressive massage did not unduly augment the uterine action. I soon discovered that pressure on the margins of the os was quite unnecessary, and in lieu thereof I used my best endeavors in aiding its dilation with my fingers. When Dr. Poole arrived, labor was progressing after the most approved manner, and from this time forward was entirely uneventful, save that it was somewhat tardy, because of the unyielding condition of the os in the early stages. The child was born alive, but not lively, at five o'clock the same morning. Pressure was continued over the uterus until after the secundines were expelled, and a well-fitting bandage was applied.

The child survived only about one hour. The mother made a speedy and perfect recovery and is enjoying most excellent health at the present time.

Rationale.—I am not unmindful that theories are sometimes delusive, but a careful study of the physiological phenomena of parturition leads me to believe that when rightly apprehended they will afford the explanation to the successful means of controlling hemorrhage in almost, and possibly all, cases of placenta prævia, occurring at or near the full term of gestation, which is the time of greatest danger. The questions principally involved in my theory of the control of hemorrhage in placenta prævia, have reference to the antagonizing forces hindering the dilatation of the os uteri when labor is, or should be commenced, and the *modus operandi* of overcoming the same.

The inception of parturition would seem to be always more or less of the nature of a surprise to the uterus, disturbing the apparent security gained by months of elaborate strengthening of its cervical walls for the support and protecting its accumulating treasure. But, like all other functions of the body, that of parturition is usually performed by nature's ordained method, without the accoucheur's aid and in defiance of all antagonizing forces. The stubborn resistence to the expulsion of the contents of the uterus, observed by all practitioners of midwifery, in the early stages of labor, is frequently little less than phenomenal. Were it not for the rebellious muscular tissues investing the cervix uteri, labor would be discounted of the pain, agony and dread which it occasions in the woman, to say nothing of the vast gain of time, in the aggregate, to the accoucheur, the importance of which needs no mention.

Synchronous with each systole in labor, there is a descending movement of the uterus, bringing and maintaining it, during the pain, in contact with the maternal pelvis. This is followed by a resilient movement, synchronous with the uterine diastole. The resilience is not merely the measure of resistance of the cervical and other muscular tissues, effected by the systole, but is also the gauge of the diastole, and the dual phenomena, though only possibly a source of delay and suffering to the patient in labor, with normal attachments of the placenta, *if not restrained or counteracted* become the agencies of fatality in placenta prævia. This is because the blood escapes from the torn vessels, due to contraction of the uterus in that portion to which the placenta is attached, only when that contraction ceases. Dr. Charpenter, in the Archives de Tocologie, 1875, says, "The hemorrhage in placenta prævia takes place during the diastole, but is expelled during the systole, *and if the latter were continuous it could hardly take place at all.*" I italicize the last words of this quotation, because it is the lock into which my key fits.

Resilience is overcome, the diastole contracted, and continuous systole simulated, by the application of supra-fundal pressure. The force should be sufficient to maintain the cervical portion of the uterus in continuous contact with the superior strait of the maternal pelvis. This, incidentally, is important, as an external compress around the cervix; but the more important effect of the pressure from above, is to force the contents of the uterus into its cervical and dependent portion. The brim of the pelvis being a fixed external resistance, impinging at a point corresponding with the plane of the internal os, would make farther descent of the uterus impossible. Hence, in obedience to dynamic laws, compression of the fundus must cause a corresponding expression of the cervix and os. The logical effect of such change of force would be to facilitate the speedy expulsion of the uterine contents.

The advantages of a persistent expanding force, for the dilatation of the natural canals and passages of the soft parts of the body, are well understood. How quickly, for instance, are the sphincter muscles overcome by the application of unintermitting opposing force. So, also, supra-pressure of the uterus, when persistent, forces the contents to perform their exclusive agency in the parturient mechanism, namely, the expansion of the passage for their escape. Sometimes in placenta prævia the contractions of the uterine and abdominal muscles are so powerful as quickly to engage, unaided, the presenting parts in the passage, whereby they speedily dilate the os and also thereby act as a tourniquet, closing the open mouth of the bleeding vessels and so controlling the hemorrhage.

In conclusion: the efficacy of the method which I submit for the control of hemorrhage in placenta prævia, rests on the possibility and safety of applying sufficient supra-pressure to the fundus to cause the more dependent contents of the uterus to compress the mouths of torn utero-placental vessels, to the extent of preventing the escape of blood. The tourniquet controls the current of blood in the large arteries, not excepting the abdominal aorta. To me the method which I have suggested for controlling the hemorrhage of placenta prævia, seems scarcely less reasonable than the application of the tourniquet, while my single, apparently fair, test case strengthens the conviction that it is practicable. It certainly looks feasible, being in harmony with the laws and natural forces controlling the mechanism of parturition. Placenta prævia is abnormal, and nature unaided by the accoucheur's skill is unable to tide over the breakers. It devolves on us in the perilous emergency, to so direct the natural forces that they shall bear the frail bark past the shoals and rocks and into the quiet haven. For this we are doctors.

RECIPROCAL HEREDITY OF UTERINE MYOMATA AND PROSTATIC HYPERTROPHY. — Paul Josso has brought forward in the *Gazette Medicale de Nantes*, some interesting statistics apparently showing a reciprocal heredity between uterine myoma and prostatic hypertrophy. He believes that a full study of the subject will perhaps lead to this law, that myomatous degeneration of the uterus in the mother predisposes not only her daughters to this affection, but also her sons to prostatic hypertrophy, and reciprocally, hypertrophy of the prostate in the father predisposes his sons to the same disease and his daughters to uterine myoma.

Certainly this is an important law if verified.

One of the arguments suggested by Dr. Josso is that from embryogeny, and he considers the prostate the analogue of the uterus. But it is the prostatic utricle rather than the prostate itself, which most embryologists regard as the analogue of the uterus, the main argument against the supposed analogy being that the uterus is developed at an earlier period of intrauterine life than the prostate. However, the question must be decided by clinical observation rather than by embryology.—*Medical News.*

REMOVAL OF BOTH OVARIES TO PREVENT LOSS OF VISION.—Dr. Priestley Smith, in the *Ophthalmic Review*, details a most interesting case of a young woman suffering from blindness, and relieved by removal of the ovaries. The patient was a married woman, aged twenty-four. She had suddenly and completely lost the sight of the left eye after a fainting fit, consequent upon ovarian or uterine disease, as it was preceded by pain in the pelvic region. Subsequent attacks of the same nature affected the right eye temporarily, its field of vision becoming permanently lessened. The retinal arteries of the left eye were shrunken and the disk pale. The ovaries and Fallopian tubes were removed, both being diseased. Vision was restored to the right eye.—*N. Y. Medical Record.*

MISCELLANY.

North American Review. — The immemorable institution of trial by jury, which for centuries has been regarded as one of the most essential rights of the citizen and as one of the most effective barriers of absolute power, is itself on trial to-day, and required to show cause why it should not be discarded and a more effectual method of administering justice substituted for it, or at least why it should not be reformed so as to yield more satisfactory results. Some suggestions for the improvement of the existing jury system, presented by Judge Robert C. Pitman, in the *North American Review* for July, under the title of "Juries and Jurymen," should, in view of the recent notorious miscarriages of justice, receive the serious consideration of every thoughtful citizen. "American Economics," by Prof. Van Buren Denslow, is a lucid and forcible exposition of the grounds upon which the protection theory of national economy is based. Charles T. Condon writes of "Private Vengeance," and, finally, there is a symposium on "The Future of the Negro," by Senator Z. B. Vance, Frederick Douglas, Joel Chandler Harris, Senator John T. Morgan, Prof. Richard T. Greener, Gen. S. C. Armstrong, Oliver Johnson, and others.

The "Faith Cure" and the Church. An Episcopal clergyman sojourning in New York having declined to employ a surgeon for the relief of his daughter, who had sustained a fracture of the arm, relying implicitly, as he said, on a professor of the "faith cure," the assistant bishop of the diocese has administered a kindly but effective rebuke, which, in conjunction with legal proceedings brought by the Society for the Prevention of Cruelty to Children, has resulted in regular medical attendance being afforded the child.—*New York Medical Journal.*

A Bird's Appetite.—Dr. Wood says: "If a man could eat as much in proportion as a bird, he would consume a whole round of beef for his dinner. The redbreast is a most voracious bird. It has been calculated that, to keep a redbreast up to its normal weight, an amount of animal food is required daily equal to an earthworm fourteen feet in length. Taking a man of average weight, and measuring bulk for bulk with the redbreast, I tried to calculate how much food he would consume in twenty-four hours, if he ate as much in proportion as the bird. Assuming, a sausage nine inches in circumference to be a fair equivalent of the earthworm, I find that the man would have to eat sixty-seven feet of such sausage in every twenty-four hours. I mention this in order to illustrate the amount of work which is done by insect-eating birds."

Darwinism and Circumcision.—A correspondent writes: "The only explanation I have ever heard given by a scientific man to the fact of Jews continuing to be born with foreskins, is the witty repartee, attributed to Prof. Huxley, who immediately answered the question, when propounded by a country clergyman, with the quotation, "There's a divinity that shapes our ends, rough-hew them as we will."

A Slow Pulse.—A physician of Rochester, N. Y., has been broken down in health since his service in the army, during the war, when he contracted various chronic affections. The force and rate of his pulse have gradually decreased, and in 1882 the number of pulsations per minute had diminished to 38, and now, it is said, they have further diminished to 26. — *St. Louis Courier of Medicine.*

Bibliography.

Sexual Neurasthenia. (1)

This manual of 270 pages is a posthumous manuscript of G. M. Beard, arranged and edited by the author's associate, A. D. Rockwell. The profession generally is well acquainted with the works of the author, and this little book, while treating of a subject comparatively little studied and understood, is sufficiently recommended when the author's name is mentioned.

The subject is a broad term, and might be misapplied but for the thorough description which it received at the hands of one

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1. By George M. Beard, A.M., M.D. Edited by A. D. Rockwell, A.M., M.D. New York. Price $2.00

whose pen has won laurels for him as a writer.

The work is divided into eight chapters, and is so arranged as to treat the subject in a systematic style.

The first chapter treats of the various varieties of neurasthenia. It points out the errors of text books on nervous diseases, and shows that some of the new forms of nervous diseases are dependent upon irritation of the sexual organs. It shows that there are three reflex centers in the body, viz.: the brain, the stomach, and the genital system; these, with their subcentres, must be carefully studied when treating nervous diseases — "the spine, the eyes, the teeth, the glans penis, the ovaries, when diseased, may cause disease of any other part." This general reasoning has made an effort to prove that all functional nervous diseases comes from the eyes, and that right glasses are a specific for neurosis, or that the removal of an ovary or the cure of a lacerated cervix by the surgeon will relieve all women of nervousness, but according to the author's experience, we must be exceedingly sanguine in every case, and watch all the many centres of reflex irritation instead of only one.

The third chapter treats of the relation of neurasthenia to other diseases. Here again we can observe the author's power of differentating between cause and effect, which is so difficult frequently.

In the sixth chapter a series of forty-three cases is given, to illustrate the various forms the disease may take, with the proper treatment for the relief of each case.

The chapter on sexual hygiene is nothing more than a simple repetition of what has frequently been said on that subject, and could certainly be improved upon. Much attention has been given this subject in Germany and France since the author's original essay on "Neurasthenia," in 1877. This essay, which we might say is the parent of at least twenty-five special monograms on this subject, was three times rejected by different editors, until finally it was read before the New York Medical Association, and published by their *Journal*. When it reached Germany it was accepted and understood.

Altogether, the work merits the author's efforts, and can not but be appreciated by the profession. The typography and general appearance of the work are all that can be asked. C. W. T.

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Original Articles.

FOREIGN BODIES IN THE URETHRA:

WITH THE REPORT OF A CASE IN WHICH A BULLET WAS REMOVED THIRTEEN YEARS AFTER THE RECEIPT OF A WOUND IN THE GROIN.

Read before the Ohio State Medical Society,

By N. P. DANDRIDGE, M.D., Cincinnati.

The following histories are given as examples of foreign bodies in the urethra, and their recital will give an opportunity for the consideration of the symptoms and the treatment appropriate in such cases.

J. B., adult, while suffering from an attack of gonorrhœa, found suddenly one night that he was unable to pass his water, and after repeated attempts, applied to Dr. Eichberg, under whose care he was at the time, and was readily relieved by the introduction of a soft catheter. For several days following he passed his water naturally, but with some difficulty, and the doctor then introduced a steel sound for the purpose of exploration, and just before the instrument passed into the bladder it came in contact with a foreign body, its presence being indicated by a grating sensation.

The following day I saw the case with him, and easily verified the presence of a foreign body in the bulbous portion of the urethra. The bladder was readily entered, but the instrument always gave a distinct grating sensation, as though passing over a roughened surface deep in the urethra. A pair of Thompson's urethral forceps was introduced, and after several attempts the stone was seized and drawn to within an inch of the meatus, when it escaped from the grasp, and all attempts to seize it in its new position were unsuccessful, until by grasping the penis firmly behind, so as to prevent the foreign body being pushed before the forceps, and having an assistant put the urethra upon the stretch, so as to obliterate any folds which might exist, a stone weighing nine grains, rough upon its surface, and measuring $\frac{2}{5}$ inch by $\frac{3}{8}$ inch in diameter, was drawn through the meatus. The pain was so slight that no anæsthetic was given, and the irritation which followed soon subsided. This stone was extracted a year ago, and the man has since had no trouble. The symptoms in this case are those usually found in similar ones when calculi escape from the bladder into the urethra: sudden stoppage without premonitory symptoms, and subsequent ability to make water, usually, however with much greater difficulty than in the present case. In all probability, even though the catheter had not been used, the urine would very soon have passed drop by drop, owing to the irregular shape of the obstructing body. The rubber catheter failed to appreciate the presence of the foreign body, which the steel sound at once indicated.

The second case, for the record of which I am indebted to Dr. Wilder, at that time interne in the Cincinnati Hospital, is much more unusual and interesting, indeed, in many of its features, is quite unique.

F.S., colored, age 26, groom, well developed, came to the Hospital Dec. 17th, complaining of stricture of the urethra. Four years ago he states that he contracted syphilis, and a year and a half ago he had for the first time an attack of gonorrhœa. From this latter he says he recovered entirely. About a year ago, while urinating, the stream suddenly stopped on him, and since that time he has not been able to void his urine in a full stream, it dribbles away, and the trouble seems to be constantly increasing. At the time of entering the Hospital he could only pass water drop by drop, and the effort was attended with severe pain.

The urine contained some pus and a good deal of thick, tenacious mucus. A hot bath, to be followed by rest in bed, with ten grains of Dover powder, were ordered. The following day he passed his water more freely and with less pain, and felt decidedly better.

Dec. 19. The patient says that the difficulty in urinating was of sudden occurrence, and that previously he had been free from all such trouble. Little attention was paid to this statement, though it was remarked at the time that the attack of gonorrhœa which he admitted was too recent to account for so tight a stricture as he seemed to be suffering from.

A medium sized bougie was introduced for the purpose of exploring the urethra and locating the supposed stricture, and came in contact with what seemed to be a foreign body four and a half inches from the meatus. A steel sound was now substituted, and at once gave a distinct grating sensation from contact with some hard substance which obstructed the passage and prevented the further progress of the instrument. From this examination it was apparent that the urethra was obstructed by a foreign body, and recalling the man's statement, it was inferred that a calculus had escaped from the bladder when retention had occurred a year before, and being too large to pass, had become impacted. External manipulation revealed an induration behind the peno-scrotal angle.

The day following, the man being anæsthesized, an attempt was made to seize the foreign body with a pair of forceps, and to extract it. This attempt was unsuccessful, as it was found impossible either to grasp or move the supposed stone. A full-size steel sound was therefore introduced as far as the obstruction, and an incision made at the peno-scrotal angle, directly upon the mass, which was made as prominent as possible by grasping the tissues on either side with the fingers of the left hand. To my great surprise a bullet, somewhat encrusted and flattened, of 40 calibre, was extracted. In order to remove this ball, it was necessary to extend the incision well down into the scrotal tissues. The peno-scrotal angle was not chosen by preference, as the lax scrotal tissues are likely to offer a favorable opportunity for the infiltration of urine, especially when the patient passes his water while in the recumbent position; but as an examination showed that the body could only be reached from the perineum by a much deeper and more extensive incision, it was deemed better to incur the above mentioned dangers and approach it from the position where it was most superficial.

After the removal of the ball, a No. 16 English sound was easily carried into the bladder. The wound was filled with iodoform, and the patient carried to bed.

The following day the patient told us what he had not before mentioned, that in 1870, while in California, he had been shot in the groin, and that the ball had not been extracted, although careful search had been made for it by several physicians, and he pointed to two or three cicatrices on the inner side of his thigh, which he said had been left by the incisions made in searching for it. The cicatrix at the point of entrance was in the left groin, just over the femoral vessels, about an inch below Poupart's ligament. He further states that for some time after the accident the urine escaped from this wound.

Since the operation the urine passes freely both from the cut and meatus; the only pain felt is a slight smarting when it comes in contact with the cut surfaces. Pulse and temperature are quite normal. In order to prevent the tendency of the urine to infiltrate these loose tissues the man was instructed to pass his water only in the knee-elbow position, and always to draw up the scrotum between the thighs.

Jan. 16th, he left the hospital entirely well, and able to pass his water freely without pain.

June 5th, the man came into my office, and I found the wound firmly united, with some induration about it. The urine comes freely, and in full stream. During erection he complains of a sharp pain at the seat of the incision, and there is, he says, a tendency for the penis to bend downward. With this exception, erections seem to be perfectly normal. The urethrameter can be expanded to 35 m. in the bulbous portion of the urethra; at the position in which the bullet was lodged there is a linear stricture of a calibre of 30 m., which apparently does not at all interfere with the passage of the urine.

Since writing the above my friend, Dr. John Jones, has told me of the following case which came under his observation some years ago. He was called to one of the station houses to see Red Wilson, who had just been shot. The ball had entered the buttocks, and exploration of its track failed to reveal its situation. In about an hour and a half after the receipt of the wound the desire to urinate became very urgent, and after a violent effort, something suddenly escaped from the urethra, followed by a free discharge of bloody urine. A 32 calibre bullet was found in the bucket into which the urine was passed. Recovery rapidly ensued.

The case I have reported presents many interesting and important features — the gunshot wound of the bladder and the escape of the bullet into the urethra thirteen years later, and its retention there for twelve months, giving rise to persistent symptoms of obstruction, and finally its successful removal by incision from the free portion of the urethra, without the occurrence of a persistent fistula at a point where wounds do not usually heal.

Gunshot wounds of the bladder are not

of very rare occurrence, and the subject has been very fully discussed, especially by Bartels, in Langenbeck's *Archiv. für Klin. Chir.* Bd. xxii, in a paper based on the consideration of 504 cases of wounds of the bladder. The facts contained in this paper are given by Coulson, in his work on the Diseases of the Bladder and Prostate. Of the 504 cases, 285 were gunshot wounds, and in 135 of them the pelvic bones were more or less injured by the ball—a complication which does not seem to increase the mortality, though it is likely to delay recovery from protracted suppuration during the formation and separation of sequestræ, and, it may be, from the formation of concretions around spiculæ of bone which have found their way into the bladder. In 127 cases the ball entered in front, and in 100, behind, in each the mortality was 26 The ball traversed the body in 136 cases, with 20 deaths, and in 90 cases it lodged, and of these 23 terminated fatally, showing that a double wound is less dangerous than a single one, a fact due undoubtedly to the freer drainage which occurs. Bartels shows that all cases when the peritoneum is injured terminate fatally, but it is more than probable that this prognosis may be somewhat modified by the advance constantly being made in abdominal surgery.

Penetration of the bladder need not occur at the time of the accident, but may take place a long time afterward, by a process of suppuration around a ball lodged in its wall. In addition to the missile itself, bits of clothing, clots of blood, pieces of wood or splinters of bone may all be driven into the bladder and form the nucleus of a future stone, or may subsequently be carried into the urethra, and thence escape.

These same facts are further illustrated by cases of gunshot wounds which occurred during the war, and are reported in the Surgical History. 183 cases in all are reported, with 87 recoveries, or 47·2 per cent. Recovery may be complete, or there may remain a persistent external or recto-vesical fistula. The operation of lithotomy is reported as having been performed 21 times in persons who had suffered from gunshot wounds of the bladder or pelvis, for the removal of the foreign body, and the concretions which had formed about it. In 12 of these cases, bullets were found, six times simply encrusted, and four times as the nucleus of large stones. Once an arrow head was removed, and in eight cases bone, cloth, hair, or soft organic matter formed the nucleus.

These operations, of which 17 were successful, 2 fatal and 2 doubtful, were performed at intervals varying from a few days to nine years after the receipt of the injury.

A full consideration of gunshot wounds of the bladder would occupy too much time, and the above facts are quite sufficient for our present purpose. so we may turn to the second feature of our case, namely, the escape of the foreign body into the urethra, and its successful removal.

There are several old cases mentioned in medical literature in which bullets are represented as escaping by the urethra after penetrating the bladder. A list of these will be found page 268, Surg. Vol. Part II., Medical History of the War. The particulars of the only recent case are given on page 286, as follows:

J.R., age 22, shot Aug. 4, 1867, ball entered pelvis, midway between the posterior spine and the tuberosity of right ilium. Little blood escaped from the wound at the time. An effort to pass water was soon made, but was unsuccessful, and the catheter was used, and brought away a pint of bloody fluid. After a short interval the instrument was again used, and the urine was found less bloody. Aug. 9th, the bladder had regained its normal tone; when the catheter was introduced for the last time yesterday it came in contact with a foreign body.

The day following the patient noticed that if he attempted to pass his water while in a standing position, the stream would suddenly stop, and no effort could make it flow out. If he was in the recumbent position the water would come freely.

Aug. 19, fifteen days after the accident, the patient felt while urinating, something enter the urethra, and at once the stream stopped. Making a violent effort, the body was driven forward to near the meatus, and by a little manipulation was removed. It proved to be a conical bullet, and weighed eighty-four grains.

The escape of spiculæ of bone and bits of clothing were more frequently observed, and on page 284 several cases are reported where bone continued to pass for some months.

The urethra may be obstructed by foreign bodies which have been introduced through the meatus, or which escape into it from the bladder. These last consist of pathological formations, such as calculi (the most frequent), or bits of vesical of renal tumor, or clots of blood; or may be extraneous bodies which have entered the bladder as the result of traumatism, and consist of the missle itself, or bits of clothing, bone, etc., which have been carried before it. These bodies may penetrate the bladder at the time of the injury, or after a considerable interval of time; most frequently they remain in the bladder and form the nucleus of a future stone, or they may enter the urethra and escape or become impacted, as in the case reported.

In the third class the foreign body develops in the urethral wall or the glands connected with it. Prostatic calculi furnish the most frequent examples of this last variety, projecting into the urethra they become encrusted and finally obstruct this canal. They are very rare and need not be further considered.

The first class, where foreign bodies have been introduced through the meatus, I will also dismiss with the simple mention that they consist of a variety of objects, such as pieces of instruments used for surgical exploration, or slate-pencils, glass rods, pins, needles, and a host of other things used by onanists for the purpose of exciting erotic feelings. These cases often require great ingenuity in removing the body without doing some damage.

There remains for consideration those cases in which the foreign body has passed down from the bladder and been arrested either from its size or from the existence of a stricture in the urethra. The large majority of these cases are furnished by renal or vesical calculi. In former days impaction of a fragment was often seen after the old-fashioned lithotrity. The entrance of the body into the urethra generally gives rise to a sudden retention, which frequently occurs during the act of micturition. This retention may or may not have been preceded by more or less marked symptoms of renal or vesical stone. After a variable time, and a variable degree of suffering, the stone may escape from the meatus followed by a free discharge of urine. If it is too large to pass urine generally soon begins to flow, usually in small quantities and with considerable pain, presenting the symptoms generally characteristic of a more or less tight stricture. If the stone is low down it can always be felt externally. Inflammation and dilatation behind the point of obstruction occurs, cystitis develops, and stringy mucus and pus appears in the urine. The stone itself is apt to increase from fresh deposits, but seldom completely blocks the channel. In other cases the obstruction is never marked, as was seen in my first case, in which after the use of the catheter the water came without much difficulty. Contact of the rough calculus is apt to produce ulceration, and then it may escape through the urethral wall into the tissues beyond, and finally find its way to the surface, leaving a urinary fistula behind, which generally soon heals, or the communication with the urethra may be closed and the stone remain encysted and ultimately give rise to a perineal abscess.

In some cases a stone as large as a hen's egg (Voillemier) is developed lying in a cavity having a more or less free opening into the urethra, but giving rise to no serious symptoms. These cases are difficult of detection, for the sound is apt to pass over the stone without touching it. Assistance may be obtained by placing the fingers in the rectum and making counter pressure against the staff. When a calculus has been retained for a long time a traumatic stricture is likely to follow its removal from the contraction which will follow the healing of the ulcerated surface which has occurred. The foreign body may lodge in any part, but is more often found in the membranous portion or just behind the meatus.

In the treatment of these cases, the foreign body may be extracted through the meatus, or it may be pushed back into the bladder, or finally it may be removed by incision. Where a foreign body has engaged in the urethra extraction should always be attempted, but with the utmost gentleness—no force is allowable for fear of lacerating the urethral walls. If this attempt prove unsuccessful and the stone is near the deep urethra an effort may be made to gently force it back into the bladder, and, if successful, it should at once be dealt with by lithotrity and then evacuated. It is, however, only permissible to attempt this when it is apparent that the foreign body is a stone or some friable substance, and not a hard substance, such as a bullet or piece of bone, which would render crushing impossible. In this latter case to return the foreign body into the bladder would be a decided mistake, for its removal would necssitate the performance of a cystotomy instead of the much less serious operation of urethrotomy. If the foreign body is found in the free portion of the urethra, no attempt, under any circumstances, should be made to force it back into the bladder. When the arrest is due to a stricture a bougie should, if possible, be carried into the bladder and allowed to remain for some hours, and on its withdrawal a sufficient dilatation may have occurred to permit the passage of the stone. In some cases it is possible to divide the stricture by an internal urethrotomy, and this should be always done, when feasible, in the anterior part of the urethra,—in the deeper portion an external urethrotomy is safer as it affords better protection against infiltration.

For the purpose of extraction various forms of slender forceps have been suggested, and a very useful instrument is the urethral curette, which readily passes beyond the foreign body between it and the walls of the canal. A special form of slender lithotrite has been invented for use in the urethra where the stone is large and requires reduction in size.

Finally, incision will be necessary where these means fail and should even be preferred in all cases of impaction and where from long arrest the stone has produced ulceration, especially if it is lying in a cavity beyond the urethral walls.

To sum up the indications for treatment, in most recent cases the foreign body can generally be removed by the natural passages by some of the instruments referred to, or can be returned to the bladder and there dealt with by lithotrity; while in long standing cases an external incision will usually be necessary and may be made with the confident expectation that the wound will readily heal.

It is said that by the following simple method almost instant relief of ear-ache is afforded: Put five drops of chloroform on a little cotton or wool in the bowl of a clay pipe, then blow the vapor through the stem into the aching ear.

ROUGH ON RATS.—This poison is simply white arsenic, with scarcely a shadow of disguise, a most efficient, but a needlessly cruel minister of the angel of death.

Correspondence.

IMPORTANCE OF CORRECT DIAGNOSIS.

LAPORTE, IND., June 20, 1884.

Editors Lancet and Clinic :

An article, under the heading "Importance of Correct Diagnosis," by Dr. W. H. Jones, Jeffersonville, O., in your issue of June 7th, should receive a passing notice. It is plainly intimated in this article that John Coil, of Fayette County, O., came to his death in consequence of an error in diagnosis by Prof. Howard, of Columbus, long since deceased.

Dr. Jones says he was called to attend Mr. Coil about twenty-eight years ago, that he found him apparently unconscious with retention of urine for four days and nights; that his attending physician, during this time, had repeatedly introduced the male catheter without drawing any urine and that he did the same with a silver instrument, revolving it on its axis while in the urethra full length; that finally, by the use of a little common sense, he succeeded in getting the instrument into the bladder, discharged about a quart of urine and found a stone (two of them), which he subsequently extracted post mortem, his patient dying that night.

He states that a few months afterward he met Dr. Darling, who said that he assisted Dr. Howard to examine Mr. Coil three different times and that he had no gravel. Whether I was present or not at an examination of Mr. Coil by Dr. Howard I do not now remember, neither have I any remembrance of the alleged conversation with Dr. Jones. As the Doctor says such a conversation was held I will not dispute him.

The point I wish to make is this: Dr. Howard died thirty years ago last January. He had been in his grave at least two years when Dr. Jones, according to his own statement, administered on the body of "old John Coil." No examinations for stone were made by Dr. Howard in my presence for at least eight months before his death. Here is a period of about three years, ample time for "two stones" to have formed in the bladder of John Coil.

No student of Starling Medical College, thirty and more years ago, who listened to the practical teachings of Prof. Howard on surgery, and who repeatedly saw him sound and cut for stone, will believe that he blundered in the way intimated by Dr. Jones. No sir! He never was guilty of passing a *metalic sound* or catheter "full length into the male urethra, making a false passage, and then revolving it on its axis outside the bladder. Evidently Dr. Jones believes in the adage that "A live dog is better than a dead lion."

Of the second case in which his powers as a diagnostician were conspicuously manifested, I have nothing to say. Dr. Hamilton still lives, I believe, and is abundantly able to take care of himself.

Respectfully,
N. S. Darling, M.D.

Society Reports.

ACADEMY OF MEDICINE.

Meeting of June 9, 1884.

W. H. WENNING, M.D., *Pres't in the Chair.* G. A. FACKLER, M.D., *Secretary.*

Dr. J. C. McMechan read the following paper on

The Use of Balsam Copaiba in Chronic Cystitis.

It is not with the expectation of saying anything new that this paper is written, but only with the desire of stating what can and may be done by the use of an old and tried remedy.

The causes of chronic cystitis are numerous. The acute form is frequently followed by the chronic form. Stricture of the urethra, by causing retention of urine until it is slightly decomposed, excites inflammation of the lining membrane of the bladder. Among the other causes of chronic cystitis may be enumerated acidity or alkalinity of the urine, atony or inability to pass the urine, tumors of the bladder of all kinds, or calculi. Indulgence in ardent spirits, diuretic remedies, such as cantharides, violent exercise on horseback, diseases of the rectum, etc., may all be considered as exciting causes.

Coulson (Diseases of the Bladder, p. 85) says: "Some persons are apparently more predisposed to catarrh of the bladder than others; such as those of irritable scrofulous temperament, with fair skins and a tendency to cutaneous affections, more especially if they have been accustomed to live freely, or are given to venereal excesses, or have suffered from syphilitic affections or gout. Gouty persons are very subject to this affection."

Sir Henry Thompson, in Holmes' System of Surgery, says: "The structure affected is the mucous membrane lining the bladder; rarely is any other implicated. After long persisting inflammation it is thick, velvety and dark in color, its vessels being loaded while the underlying fibres are usually hypertrophied. Chronic or subacute cystitis appears in two distinct forms: the first, an ordinary inflammation in which a more or less active hyperæmia, hypersensibility and very slight increase of secretion are the main elements; the second often a condition succeeding to this or to the acute form, in which a passive or congestive hyperemia from local debility in the capillaries, some hypersensibility, and an *inordinate secretion of mucus* mingled with pus in varying quantity mark the complaint. The latter form is popularly recognized as 'catarrh of the bladder,' and is sometimes called cystorrhœa.

The first, or *simple chronic cystitis*, is in fact the condition which exists in most cases of irritable bladder, be the cause what it may. Wherever undue frequency in micturition exists with increased mucous secretion from the bladder, however small in amount (the signs of the acute disease being absent), there is present subacute or chronic cystitis. Pus is also always present, capable of being detected by the microscope in these circumstances, and is therefore by no means a matter of grave import as it is often taken to be." This form readily yields to treatment.

"The second and more severe form of the complaint, however, is that to which the question of treatment becomes wide and important. The naked eye characteristics of chronic catarrh are well known. At the bottom of the vessel into which the urine has been passed a quantity of semi-transparent, tenacious, ropy material, very much resembling the white of an egg, is soon deposited. On pouring off the contents of the vessel, it is seen at first to adhere to the sides, but soon it slides down in a mass, almost resembling jelly, and then falls, but suddenly and heavily. This material has been regarded by some as simple mucus; by others as prostatic secretion; and, more recently, as merely pus altered by an alkali. None of these descriptions appear to be correct. No doubt it contains a considerable admixture of pus, but it is by no means identical with a specimen of that secretion to which an alkali has been added, although there is a strong apparent resemblance between the two products. The mucous membrane of the bladder in these cases appears to secrete, as the bronchial membrane is also prone to do, much of a homogeneous structureless fluid, containing numerous pus corpuscles and young epithelial cells; but the proportion of the liquor to the corpuscles is much larger than in ordinary pus. The old term, muco-pus, describes it perhaps more correctly than any other."

The treatment of chronic cystitis has to be varied according to the cause of the disease. If it depend upon a stricture, that, of course, has to be cured. If a calculus is found in the bladder it must be removed. A great number of remedies have been given internally for the cure of this disease and among others balsam copaiba. It is an old remedy and half a century ago it was more depended upon than now. Sir Astley Cooper and Baron Dupuytren placed great confidence in the balsams as a remedy for catarrh of the bladder. Sir Astley Cooper says: "The best remedy that can possibly be taken is the balsam of copaiba, no remedy so completely robs the urine of mucus as this. Eight or ten drops, three times a day, will usually be found to be quite sufficient; it may be given in conjunction with sweet spirits of nitre and camphor mixture, or with mucilage of acacia." Eberle, on the contrary, had but little faith in balsam copaiba. In his work on the Practice of Medicine, he says: "From the known good effects of balsam copaiba in chronic inflammation of mucous membranes there is some reason to presume that advantage might be obtained from its use in catarrh of the bladder. Experience does not, however, furnish us with much testimony in its favor. I have given it in a few cases, but in these it appeared to give additional uneasiness in the bladder without diminishing the mucous discharge." Erichsen says of balsam copaiba: "When vesical catarrh has come on, and the disease has lost its inflammatory character, appearing rather to consist of atonic exudation from the mucous membrane, a different plan of treatment will have to be adopted. In such cases as these the administration of vegetable astringents, as the uva ursi, buchu, pareira-brava, with henbane and nitric acid, will often be of service. In many cases, however, most benefit is derived from the administration of the balsams, more particularly of copaiba." This remedy is also highly recommended by the late Dr. LaRoche (*American Journ. of Med. Sciences*), of Philadelphia, in catarrh and chronic inflammation of the bladder. Hamilton ("Principles and Practice of Surgery") makes the following statement: "The internal exhibition of such remedies as balsam copaiba in quantities to produce a moderate effect upon the kidneys, and long continued, seldom fail to give relief in chronic catarrh." Bumstead, Bartholow and Ringer also speak in favorable terms of copaiba in this disease. According to the United States Dispensatory a dose of balsam copaiba is from twenty drops to a drachm three times a day. A drachm contains one hundred and ten drops. Ansiaux ("Pharmacopœa Universalis") and Ribes gave from three drachms to two ounces in twenty-four hours for a number of days with the effect of curing their patients and causing no ill-effects.

In the month of February, 1880, Mrs. M., suffering from chronic cystitis, came under my care. For nine months previous to consulting me she had been under the care of a careful and very successful practitioner of this city, who, I have no doubt, tried all the usual remedies for this disease. As he had failed to relieve the patient in any way, I concluded, before prescribing for her, to examine the bladder carefully to see if a calculus or any foreign body was contained in it. This was done with the greatest care, but without discovering anything that might have excited the inflammation. The patient had to pass urine every half hour and this caused most distressing pain. Large quantities of mucous pus was discharged from the bladder daily. No topical treatment was tried but internally a great variety of remedies were administered. Atropine, morphine, hyoscyamus, tinct. ferri muriat., acetate potash and many other drugs were prescribed, but without success; even the morphine failed to give any special relief. The patient took but little exercise and during a number of weeks of the treatment lived principally on a milk diet as recommended by Dr. George Johnson (and used by him with so much success), but in this case without benefit. She was under my care three months and was no better at the end of that time than she was at the beginning of the treatment. She then consulted Dr. Langenbeck. He prescribed for her and in two weeks she was entirely well. Wondering what he could have given her that cured the disease so quickly, I asked the Doctor what the remedy was and he answered balsam copaiba. He gave almost a drachm at a dose and administered it three times a day. His formula was as follows:

℞. Bals. copaiba, ʒ x.
Spts. nit.-æth., ℥ i.
Sol. bimec. morph., ʒ ii.
Syr. Simplex., ℥ ii.
Aquæ et acaciæ pulv.
q.s. ut emuls., ℥ vi.

At the time this patient recovered I had another patient affected with the same disease. She had been suffering for four months and as she had two years before that time passed a calculus from the bladder I deemed it best to examine that organ carefully. Two other physicians were called in consultation, ether was given and the bladder examined, but no calculus detected. This patient was given about all the remedies that I could think of that might have been beneficial, and also several that were proposed by the gentlemen in consultation, but without any good effect. The patient's life was a misery to her as she could hardly leave home on account of having to urinate every half hour and sometimes oftener. She was finally put upon the balsam copaiba treatment and after having suffered five or six months, while on other treatment, in two weeks she was completely cured by this remedy.

The history of the last case, which was greatly relieved by balsam copaiba, that I wish to refer to was as follows: Mrs. A., married, about twenty-four years of age, in August, 1882, consulted a homeopathic physician of this city for some uterine disease. He dilated the cervical canal by introducing a number of various sized uterine sounds at one sitting. This was done at the Doctor's office and the patient rode home in her buggy (a distance of several miles). A few hours afterward peritonitis developed and the same physician was sent for, who treated her for several days, but the patient grew worse so rapidly under his care that he was dismissed and a regular physician called. The latter, seeing the desperate condition of the patient, called an eminent practitioner in consultation and it was only by the greatest care, attention and skill that they were able to save their patient. After several months the peritonitis subsided, but the inflammation had extended to the bladder. Most intense pain was experienced every time the urine was passed, large quantities of mucus and pus were discharged from the bladder and the patient had to be constantly kept under the influence of morphia. Remedies were given internally for the cure of the cystitis and remedies were applied topically to the mucous membrane of the bladder by means of injections. The bladder was washed out thoroughly and then the medicated fluid was injected. Nothing gave any relief except morphine and even that failed to cure. The patient could not leave her room and was not able to sit up more than half an hour at a time. Her suffering was so great that, notwithstanding the fact that the patient and her family had every confidence in the consulting physician, yet they finally called in another distinguished medical practitioner. He put the patient under the influence of ether, examined the bladder thoroughly to see if any foreign body was contained in it and to find out the dimensions of the bladder, and also whether ulceration was present. Nothing but chronic catarrh of the bladder was found present and internal and topical treatment was again had recourse to. Everything that had ever been proposed was most likely tried in this case —except balsam copaiba. The consulting physician finally said nothing more could be done except to make an opening into the bladder and let the urine flow off in that way. Before submitting to this procedure the patient concluded to abandon all treatment for awhile and to take nothing but morphine for the relief of pain. The physicians ceased visiting the patient but were to be sent for in case anything special occurred. During the month of March, 1883, this patient asked me to prescribe for her, after relating what had been done for her and stating who had treated her. After such careful physicians had treated the case so long and without success there was but little prospect of any medicine helping her. Balsam copaiba was, however, prescribed according to the formula already given and in a week from the time she began to take it she was able to go out riding although she had not been out of the house for months before that time. The patient steadily improved and became quite fleshy. She goes about and attends to her usual avocations. The cystitis is not entirely cured, but the patient is in a comfortable condition and the disease gives her but little trouble. She still takes balsam copaiba but in smaller doses.

The remedy was prescribed in several other cases and with good effects, but the three cases just related prove most conclusively the usefulness of balsam copaiba in chronic cystitis.

DISCUSSION.

Dr. Conner said that although the remedy had effected a rapid cure in the three cases cited by the author, it is a question whether thirty-three cases of chronic cystitis would be followed by equally satisfactory results. This remedy, like many others, is of service in some cases and ineffectual in others. Chronic inflammation of the bladder is due to various causes, and a specific action cannot be claimed for one remedy. The vast majority of cases treated by speaker occurred in the male, and since the disease has been considered by him a local affection he has employed local treatment. It is of the greatest importance to find the cause of the trouble. It may be due to a stricture, calculus, tubercular disease, (of which he had observed two cases) or no discoverable lesion. We may trace it to a pre-existing disease of the kidney. In the female the disease may depend upon disease of the uterus or cervix, and upon a tumor pressing upon the bladder, rectal disease. No cause may be discernable except that the patient is of a nervous hysterical disposition. Speaker has found topical applications most available. In four cases no remedy offered substantial relief. In these cases he performed cystotomy, keeping the canal thus established open as long as practicable. In three patients relief followed the operation, in the fourth no good effects were noticed. In one case of supposed stone, no stone was discovered, but there was fullness along the prostate and in the region of the vesiculæ seminales. An incision was made in this situation, and great relief obtained. Patient died some months thereafter of tuberculosis. Speaker has employed balsam copaiba in very few instances. He could readily see that any balsam is of use in mucous inflammations. It is his impression that, in aggravated cases, washing out the bladder, not with simple, but medicated water is of the greatest service, at the same time giving directions to the patient as to passing of urine, etc. He places the most reliance on this treatment. In the most aggravated cases physiological rest, obtained by opening the bladder, is most beneficial. No difficulty is experienced in the operation, but in the endeavor to keep the channel open. By allowing the urine to flow, and washing out the bladder, a fair proportion of cases are cured, and many relieved. The reputation of balsam copaiba has had its ups and downs, and he would be pleased to hear more satisfactory results, but in his opinion it will be found that, when the remedy is employed in fifty or a hundred cases, it will be followed in some by good, in others by negative results. Remedies ought to be applied as the necessities of the case demand.

Dr. Reamy asked Dr. Nickles to explain the physiological action of balsam copaiba. Dr. Nickles stated that he agreed with the author of the paper as to the utility of the drug. Speaker gives balsam copaiba in all cases of specific urethritis, as also in the majority of cases of cystitis, and in some bronchial troubles. Speaker supposes that in cystitis the remedy is not useful as long as the original cause still exists; but when the cause is absent and the chronic inflammation still remains, its use is followed by happy results. Not long ago it was supposed that the medicine acted directly upon the blood-vessels, producing an astringent effect. At present it is held that it acts aseptically by rendering the urine aseptical. In those treated with the balsam the urine will not undergo putrefaction. It is likely that its utility is due to this property.

Dr. Wright said that it is an interesting question, whether we shall rely upon theory or upon observation and experience. The one side is practical and the other theoretical. He agrees with the essayist as to the value of balsam copaiba. No remedy is older. In his earliest and in his last cases he has used it, and derived benefit from it. The larger number of his cases have been in females. He combines the balsam with paregoric and camphor-water. In the acute and in the incipient chronic the remedy has seldom failed to benefit within a week or ten days. Speaker in answer to Dr. Ransohoff's question said that he had seen urticaria follow the use of the balsam.

Dr. Cleveland remarked that he had not much experience in the use of balsam copaiba in chronic cystitis. The disease is due to different causes, and these are followed by different results. Hence it is difficult to cite one's experience as to the results obtained from one drug in the treatment of disease. In his opinion more benefit can be obtained by the topical treatment ment of this disease. He also readily believes that the balsam is beneficial in some cases, especially those in which the inflammation has extended from the urethra to the bladder. But when the trouble depends upon a pathological condition, no definite result can be expected. The treatment of chronic cystitis is not satisfactory. The acute form yields very readily under proper treatment.

Dr. Ransohoff remarked that the most important point is to determine the cause, whether it is stone, tuberculosis, etc. If the disease is secondary, the primary affection must first be removed. In some cases the balsams act beneficially, especially in the chronic and subacute forms in which no distinct cause can be detected. Speaker has seen cases in which distinct hemorrhages occurred, where no cause could be discovered, and where perhaps so-called hemorrhoids of the bladder were present. It is his opinion that the remedy is not only aseptic, but also astringent, imparting certain properties to the urine. It certainly passes through the kidneys, and in all probability exerts its influence upon the vessels at the neck, where the greatest changes occur. In old standing cases, whether there is a discernible cause or not, where there is an hypertrophy of the mucous membrane, we can expect no goed from balsam copaiba. Years must have elapsed before this condition is produced, and before this time balsam ought to have been tried.

Dr. Reamy stated that in these cases his practice had been empirical. He has prescribed the balsam in cases where its employment was followed by prompt relief. It is well known that many years ago this drug entered into the composition of many expectorant mixtures for chronic bronchitis, catarrh, and marked relief was obtained when the balsam was well borne by the stomach. This certainly partly demonstrates its action on the mucous membranes. Should anyone desire an explanation of the elimination of balsam copaiba, let him smell the breath of the patient to whom it has been administered. Its odor is distinctly appreciable for three days after its administration. It may act antiseptically, and if it is true that every disease, especially of serous and mucus membranes depends upon sepsis, this might be a satistactory explanation of the action of the drug. If we consider the light thrown upon the etiology of cystitis, we will find that the disease is, in many cases, primarily due to, and is an outgrowth of septic infection, and this is the prolific source of the trouble in females to an extent which ought not to be. Inclined to believe that when cystitis is due to the cause indicated, the balsam capaiba is more beneficial than when due to other causes. When it depends upon lesions of the uterus or rectum the remedy is not applicable. Speaker would be greatly pleased if some man would treat the next case not with injections, but administer a saline cathartic, and after five or six days, during which period the parts are kept clean, put the patient on full doses of balsam copaiba. In his own experience good results are obtained in almost every case; has had few cases the last few years in which no relief was obtained. The balsam is not bad to take in capsules after meals, and may be given in four times the dose at bedtime.

Dr. McMechan said that he did not wish to state that the remedy cured all cases. It seemed that the more chronic the disease the more successful the balsam. Of the three cases reported two are entirely cured, and the third, confined for a long period, is now out and about in much better condition. Speaker himself had more confidence in topical treatment. As to making an incision into the bladder, it is the last resort, and leaves the patient in a disagreeable condition. The balsam must be given in large doses. He tried four capsules three times a day, but no good results followed. He examined first patient carefully but no cause was discoverable. The second patient had passed a calculus on a previous occasion, and the disease came on after confinement. The third was due to a violent attack of peritonitis.

The last issue of the *Journal of the American Medical Association* devotes eight columns to an article on "Milk Treatment of Disease." The London *Medical Press and Circular*, May 11, 1870, gives the same information in eight lines.—*N. Y. Medical Record.* Oh, my!

THE CINCINNATI
LANCET AND CLINIC
A Weekly Journal of
MEDICINE AND SURGERY.
ISSUED EVERY SATURDAY.

TERMS, $3.50 PER ANNUM IN ADVANCE.

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DR. J. C. CULBERTSON,
EDITOR AND PUBLISHER,
281 W. 7th STREET, CINCINNATI, OHIO.

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Cincinnati, June 28, 1884.

The Week.

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AMERICAN MEDICAL ASSOCIATION.—We are in receipt of the following circular:

At the meeting of the American Medical Association held at Washington in May last, an Amendment to Regulation II. was adopted, which provides that—

Membership in the Association shall be obtainable by any member of a State or County Medical Society recognized by the Association, upon application endorsed by the President and Secretary of said Society; and shall be retained so long as he shall remain in good standing in his local Society, and shall pay his annual dues to the Association.

You will perceive that, as far as such opportunities are embraced, the strength of the Association will be increased and consolidated, so as to unite the profession, and give it a force and influence not otherwise attainable. Without undertaking, however, to point out the advantages of this action on the part of the Association, or to advocate the plan of which it is a main feature, it may simply be said that, as the new departure has been taken, it is for the Association and its constituent bodies to carry it out to the fullest extent, and to give the movement their hearty co-operation.

Toward this end, the first step is to make the action of the Association as widely known as possible; and you are, therefore, requested to bring the matter to the notice of your Society and its individual members, either by circular, or in such other way as may seem to you most effective for the purpose.

Applications for membership, in the manner specified above, accompanied with five dollars for annual dues, should be sent directly to the Treasurer, Dr. Richard J. Dunglison, Lock Box 1274, Philadelphia, Pa.; on receipt of which the weekly Journal of the Association will be forwarded for one year to such member.

Respectfully yours,
WILLIAM B. ATKINSON, M.D.,
Permanent Secretary.
Philadelphia, June, 1884.

AMERICAN PUBLIC HEALTH ASSOCIATION.—At a meeting of the executive committee held at the Museum of Hygiene in the city of Washington, May 7th, it was decided to hold the twelfth annual session of the association on Tuesday, Wednesday, Thursday and Friday, October 14–17, 1884, at St. Louis Mo., and to present the following topics for consideration:

1. Hygiene of the habitations of the poor.
2. Hygiene of occupations.
3. School hygiene.
4. Adulteration of food.
5. Water pollution.
6. Disposal of sewage by irrigation or chemical action.
7. The observable effect upon the public health of official sanitary supervision.
8. The work of municipal and state boards of health.

Persons intending to present papers on any of these subjects will please notify the secretary at once, and are requested to furnish him with a condensed abstract of the same not later than September 1st. Members desiring to participate in the discussion of these papers are also requested to inform the secretary.

It is requested that the complete papers shall be in the hands of the secretary at least three days prior to the meeting, as all papers must be examined by a committee before being read. They may be sent by mail or express to the secretary at his office prior to the 1st of October, after which date to his address at St. Louis, Mo., care Dr. Joseph Spiegelhalter.

Active and associate members have equal rights and privileges in the presentation and discussion of papers.

Extensive preparations are now under way for making this the largest meeting the Association has ever held, and the committee urge the attendance and coöperation of persons in all trades and professions interested in the advancement of public health and sanitary science.

A circular giving full and concise information about local matters, programme, transportation, etc., will be issued in due season before the meeting.

All inquires of a local character should be addressed to Dr. Joseph Spiegelhalter, the chairman of the committee on arrangements, St. Louis, Mo.

Volume IX of Public Health is now published, and will be immediately mailed to all who have paid the annual assessment for the year ending October 31, 1884. Any one who may fail to receive the said volume will please notify the treasurer. Members in arrears will be furnished promptly with the volumes of the Savannah, Indianapolis or Detroit meetings, upon sending a check or money order for five dollars for each volume to the treasurer, Dr. J. Lindsley, Nashville, Tenn.

Extract from Constitution. Art. III.—The members of this Association shall be known as Active and Associate. The executive committee shall determine for which class a candidate shall be proposed. The Active members shall constitute the permanent body of the Association, subject to the provisions of the constitution as to continuance in membership. They shall be selected with special reference to their acknowledged interest in or devotion to sanitary studies and allied sciences, and to the practical application of the same. The Associate members shall be elected with especial reference to their general interest only in sanitary science, and shall have all the privileges and publications of the Association, but shall not be entitled to vote. All members shall be elected as follows:

Each candidate for admission shall first be proposed to the executive committee in writing, (which may be done at any time,) with a statement of the business or profession, and special qualifications of the persons so proposed. On recomendation of a majority of the committee and on receiving a vote of two thirds of the members present at a regular meeting, the candidate shall be declared duly elected a member of the Association.

The annual fee for membership in either class shall be five dollars.

It is hoped that every member of this association will endeavor to forward its grand objects by taking a personal interest in its humane and philanthropic work, and by securing and forwarding to the secretary the names of worthy men and women in whatever profession or trade, for membership. Even those who cannot attend the annual meetings will be more than compensated in receiving the large, valuable, and beautiful volume annually published by the Association.

By order of the Executive Committee.

Irving A. Watson, Sec'y.

Officers and Committees.—Organization of 1883, 1884. President, Dr. Albert Gihon, Washington, D. C. First Vice-President, Dr. James Reeves, Wheeling, W. Va. Second Vice-President, Hon. Erastus Brooks, Richmond, N. Y. Secretary, Dr. Irving Watson, Concord, N. H. Treasurer, Dr. J. B. Lindsley, Nashville, Tenn.

Translations.

PERMANGANATE OF POTASH FOR THE TREATMENT OF AMENORRHŒA. — In *Schmidt's Jahrbücher* we find the following brief account of a series of 69 cases of amenorrhœa treated with permanganate of potash. In certain forms of the disease this remedy is credited with being very efficient. It may be administered in solution or in pill form, in doses to begin with of 6 cg. three times daily, and increased to 12 cg. four times daily. The best mode of administration possibly is to give it during the menstrual interval, to be suspended three or four days prior to the beginning of menstruation, and in this manner continue it for three or four months. During this time other remedies should be strenuously forbidden. The best results were always obtained in young subjects of from eighteen to twenty, where menstruation, previously regular, suddenly ceased without any special cause. In instances where the period had not been observed for a year, a few doses of the potash had the effect of bringing about a regular flow, while in other cases it required sometimes six weeks to bring about the desired result. In young girls suffering with tardy menstruation and general debility, the remedy was not so efficient, but when the system was generally toned up first the remedy acted admirably. The same can be said of the remedy in the cases of married women thirty-five or forty years old. It is not so certain should phthisis be the cause of the menstrual disturbance, it stands to reason that the results could not be so favorable, yet Ringer reports some very satisfactory cases. In certain cases women claim to be relieved of leucorrhœa while under a course of permanganate of potash. Sometimes unpleasant secondary effects occurred, such as vomiting, nausea, sharp, darting pains in the sternal region, and especially was this the case whenever the remedy had been administered in solution, while when given in pill form, this unpleasant train of symptoms was indeed seldom noticed. C.W.T.

THE TREATMENT OF AURAL POLYPI.—The following is taken from the *Monatschrift für Ohrenheilkunde*, and is the resume of quite an elaborate article, which is intended to give the views of many of the leading otologists on the above subject. It is strange to see the difference of opinion sometimes on an operation or procedure which some authors are fond of treating of as absolutely settled. Knapp recommends the Hinton forceps to forcibly remove the pedunculated polypus (an old procedure); small growths he treats by means of boracic acid and alcohol. Theobald employs boracic acid and oxide of zinc. He thinks that the use of the forceps can not be recommended, since he at one time removed not only the polypus, but also the drum membrane and hammer.

Pomeroy praises the forceps; gelatinous growth he coagulates with nitrate of silver and iron. John Green uses the forceps, but generally prefers chromatic acid. Ripp employs the snare, and Brandeis the galvano-cautery, he does not prescribe boracic acid or alcohol, but prefers boroglyceride. Pouley condemns the removal by means of the forceps as dangerous and painful, Bartelett highly recommends nitric acid, while Noyes employs a variety of methods, according to the attachment of the polypus; if the attachment is anterior he uses the forceps; when further back, he uses the snare, while when the base is broad, chromatic acid is applied. Prout employs iodoform and tannic acid. Prof. Seely, as is pretty generally known, recommends chromatic acid (a remedy which he was first to recommend, and which he has employed ever since, with satisfactory results. —TRANS.) C.W.T.

OSMIC ACID IN THE TREATMENT OF EPILEPSY, by Dr. Wildermuth.—The publication by Eulenburg quite recently on the treatment of neuralgia by osmic acid, has induced Wildermuth to publish his observations with this remedy in the treatment of epilepsy. The authors experiments were made in hospital practice, and extended over a series of two years. The remedy was generally given in pill form, in doses of about 0·001 K., and as many as 15 pills per day have been given. W. hesitated very much in giving it subcutaneously, since he was afraid it would produce too much local irritation. The first series of cases consisted of ten patients that were old, chronic cases and had been treated by all known remedies. Two or three mgr. of osmic acid was given *pro die* in connection with bromide of potash. In seven cases no benefit was noticeable, in two of the remaining cases an improvement was recorded, and therefore the doses of bromide reduced to a minimum; the attacks became less frequent, but neither under bromide of potash nor osmic acid would they disappear permanently. The last case of the series must be mentioned separately on account of its exceeding interest. It was one of the most hopeless cases in the hospital, forty-two years old, female, had suffered from epileptic seizures since she was a child. As the patient advanced in years the severity of the attacks increased, so that she was not able for a number of years prior to her admission to do any manual labor. Sept. 16, 1876 she was admitted to the hospital in the most pitiable plight; she had no regard for herself or her surroundings, her appearance was that of an idiot. The attacks were quite severe, and appeared without any aura; she would shriek and fall down insensible. The convulsions were general, while possibly a little bit stronger on the right side. During her first year in the hospital she had 321 seizures; in 1881 she had 920 seizures. All this while she had been kept on the bromide treatment, in doses varying from six to eight grammes per day, even a larger amount of potash was given, but it had to be discontinued.

January 7, 1882, the treatment was changed to 0·002 of osmic acid, given in a watery solution; later, she received from 3 to 5 mgrs. per day in pill form, with 1·0 grm. of bromide of potash. The result was that the attacks diminished in number very rapidly, and by June 9, 1883, they had disappeared entirely. The general and psychical condition of the patient improved equally well. Her memory returned, so that she recalled the names and faces of many of her old acquaintances. This patient, formerly the most difficult subject to treat, was now (in the latter half of 1882) doing service as a nurse.

June, 1883, a few transitory attacks were noticed, but they passed off under the use of small doses of bromide of potash and osmic acid, which treatment was continued regularly, and no further unpleasant symptoms were noticed.

In a number of newly admitted patients osmic acid was given alone, and from the beginning, in many instances, the results were good, while in other cases no results were noticed at all. While I certainly can not and do not claim a great deal from my limited experience with this drug in epilepsy, yet I think it worth while for physicians to make observations with this remedy, and especially in such cases where all other remedies have failed, It is a well known fact that nearly every drug in the Materia Medica has been employed for the relief of this disease, but until now no one has been so fortunate as to discover a remedy that will stand the test and give satisfactory results in a reasonable number of cases.

From *Berliner Klinische Wochenschrift.*

C. W. T.

TREATMENT OF DIPHTHERITIC AND CROUPOUS CONJUNCTIVITIS. — (*Berliner Klin. Wochenschrift*, June 9, 1884.)—The great danger of this disease and the scarcity of reliable remedies for treatment, makes every additional point of information on this subject valuable. In 1881 I treated the daughter of a merchant for a diphtheritic conjunctivitis of the right eye. Guided by an article of Græfe's on "The caustic and antiseptic treatment of conjunctivitis," where he recommends the irrigation of the eyes with a one or two per cent. solution of carbolic acid after the membranes have been removed from the conjunctiva, I proceeded to institute about the same plan of treatment. I ordered the eye to be washed every two hours with a one and one-half per cent. solution of carbolic acid. In the course of a few days the entire conjunctiva, even up to the sclero-corneal junction, became involved in the diphtheritic process. The cornea now assumed a peculiar appearance, with the formation of a creeping ulcer of the cornea at its inferior margin. This pathological process progressed rapidly, and, in spite of cataplasms, atropine and Sämisch's operation, the entire cornea was soon totally destroyed. Enucleation of the eyeball was recommended, but the bad results of the previous treatment caused the parents to discharge the physicians in charge.

Shortly after this sad experience, I had the misfortune to receive another case of the same nature, where both eyes were involved. In this case I treated one eye with aqua calcis, on the recommendation of Prof. Binz, and the other was again treated with carbolic acid, 1.5 : 1000, as in the previous case, only that each remedy was applied every hour. The former remedy acted so much more favorable that the second eye was also treated with aqua calcis, with the result of causing the diphtheritic inflammation to disappear in ten days. Reflecting on the results that I have obtained since, I cannot to earnestly recommend the treatment of this class of cases with aqua calcis; and on the other hand I will just as loudly condemn the use of carbolic acid in diseases of conjunctiva. I do not pretend priority in the use of aqua calcis, since its physiological action has long since been given and certainly has been applied before. C. W. T.

ANTISEPTICS IN OBSTETRICAL PRACTICE. When speaking of antiseptics and the thorough cleansing of the vagina prior to the confinement of a woman, Dr. Opiz makes the assertion that such a procedure is next to impossible on account of the many folds and depressions, and, since this is the case, he suggests that antiseptics had better be applied to the obstetrician to prevent the possibility of him carrying a germ into the vagina. Infectious material can only be carried by means of the accoucheur's finger, and not through the atmosphere as was supposed at one time, therefore it required that the person assisting labor be scrupulously careful. Opiz goes so far in his assertions as to claim that it is far better if the case is progressing normally, absolutely not to touch the genitalia of the confined woman. The author has carried out these principles for the last twenty years and on the whole is perfectly satisfied with his results. C. W. T.

Selections.

MEDICINE.

Notes of Practice.—Dr. C. P. Clark of Oswego N. Y., writes to the *N. Y. Med. Jour.* of June 7 as follows.

Treatment of Varicocele. — Teachers and books of surgery constantly warn us not to mistake a varicocele for a hernia, and aggravate it by the employment of a truss. Now, the best treatment for this wearing and wearying affection is a weak truss. It has never failed in my hands, and I have used it scores of times, not only entirely or greatly to benefit the sufferer, but by continued application to effect a cure save in very aggravated cases. The theory of its operation is that, pressing upon the spermatic veins, the pad takes the place of the deficient valves, supporting the superincumbent column of blood which their deficiency has let weigh down upon the sensitive parts below. This particular of practice is the more important because the ailment is one which makes a man "feel bad all over," and argues to the mind of the patient, and not seldom of his surgeon, a variety of diseases that have no existence. When the bars of honor in our profession are still further let down, and the "go-as-you-please" principle becomes our law, I propose to advertise a list of cases of Bright's disease, heart disease, dyspepsia, hypochondriasis—in fact almost everything but retroflexion of the womb and fissure of its os—that I have cured by the gentle pressure of a truss on the spermatic veins where they pass over the pubic bone. I was my own first case.

Powdered Rhubarb in Certain Ulcerations. — A good many years ago I was requested by a very capable neighboring practitioner to assist him in the ablation of a woman's big-toe nails. They were embedded in villainous looking ulcerations, which had resisted long and various treatment, and by their torments had brought the sufferer to consent even to mutilation. I took the doctor aside and told him that rhubarb sprinkled thick on the sores would cure them in two weeks. And it did. Except when a deformed nail is plunged like a horn in among the granulations and must first be cut away, this treatment of ulcers of the nails is sufficient. There are many other ulcerations of the indolent-irritable sort, such as those of stumps, varicose veins, etc., in which this remedy is more effective than any other I have seen used. But iodoform may be better.

Chlorate of Potash in Tinea Tarsi and Porrogio. — I once had a bad case of tinea tarsi in a little girl in whom I was interested greatly. In spite of the variety of treatment described in books, the morbid meibomian glands persisted in pouring out their sticky exudation, and the continued loss of the eyelashes threatened to disfigure the young beauty. Considering its efficacy when internally administered, as an alterative in certain affections of the mucous membranes, particularly of the mouth and throat, I gave the patient full doses of this medicine, about a drachm per diem. It worked like a charm. Repeatedly the disease returned, as is its wont, and was as often and as readily subdued, and now the patient's eyelashes—she has since grown to womanhood—are like the drooping and seductive sprays of the weeping willow. I have constantly used this medicine since in this complaint, and have never been disappointed. In addition, when the sticky oozing is got rid of, the red precipitate ointmay be rubbed on the margins of the lids night and morning.

Not long after a lad was brought to me whose scalp was bossed with huge, stinking porriginous scabs. Reasoning from what I saw in the last mentioned case, I used the same remedy to check the morbid secretion and with like good effect. The crusty hummocks disappeared as syphilitic nodes often disappear under the iodide of potash, only far more rapidly. He who tries this remedy in full doses for this disease will not turn again to the scalp-shaving, poulticing, etc., which is the customary practice.

Iodine in Acute Lichen and Urticaria. — Failing by various other medicines to benefit a patient who was subject to frequent attacks of acute lichen with most intolerable itching, I gave him the compound tincture of iodine. It proved a speedy cure, as it constantly has in other cases since. The same is true for urticaria, a resembling and probably allied affection. In prurigo and the like itchments of the skin it shows no such virtue.

The same, aided by a calomel ointment, is the best treatment I know of for acne simplex.

In erythema nodosum, a rare complaint, but well worthy of consideration on account of its extreme painfulness sometimes, I have learned to throw overboard "baths, mild aperients, the abstraction of a small amount of blood, (Bulkley) aud the like stereotyped treatment, having found it to yield readily to the internal administration of the muriated tincture of iron.

Opium in Bronchocele. — Noticing the great efficacy of opium as an adjuvant to the iodide of potash in the treatment of bronchocele with exophthalmos, I concluded to try it in the uncomplicated forms of this affection, and have found it of such great value that I never treat its acute progressive or formative stage without giving one grain of opium a day.

Liquor Ferri Subsulphate in Diphtheria. — I have come to consider this not only as almost sovereign when timely and suitably applied, but as the only thing that has any efficacy, topical or constitutional, in the treatment of this complaint. Diluted with its bulk of water, it is to be well painted twice a day over the diphtheritic patch and the surrounding mucous membrane with a camel's-hair brush or a fine soft swab. This salt is in no way a caustic or disinfectant, nor so far as I know a poison to bacilli or any other such bugbears. Unfortunately there seems to be no safe way of effectually applying the remedy within the larynx, so that it is of no use when the disease has invaded that part. I do not claim it to be a specific, but only a very good thing.

Phlyctenular Corneitis has the poison of fever and ague at the bottom, the vesicles on the cornea being identical with the eczema or cold sore which we so often see on or near the lip in evident intermittents. Accordingly, as many outside the fraternity of oculists have discovered though seemingly few within, quinine is the grand remedy, the more effective the earlier it is employed. The attending photophobia is charmingly controlled by wiping the moistened outside surface of the outer eyelid with nitate of silver till a good smarting is produced.

Unusual Symptoms Following the Use of Unguentum Hydrargyri Ammoniati.—W. E. Green, M.R.C.S., writes as follows in the *British Medical Journal:*

The following case came under my notice a few months since, and, as it was altogether unusual, I thought a few notes might be interesting.

On July 7, I was asked to see a German lady staying in our town, and, on arriving, was told that she was suffering from inflammation of the head. I found the patient in bed, with considerable redness and swelling about the left temple, forehead, ear, and scalp. There was no feeling of heat, and no itching or pricking sensations, but only a feeling of fullness.

The left eye was partly closed by œdema of the lids. There was a dirty white tongue, and constipation; no pain; and the pulse and temperature were normal. When questioned, the patient said that, as her scalp had been scurfy after bathing, she had bought a pot of dandruff-cream and used it the day before. The symptoms had commenced very soon after the application, and were continually on the increase. She then showed me some small patches of swelling, on which appeared a few vesicles, between the clefts of each finger. Knowing that these preparations often contain white precipitate, I at once asked the patient as to whether she knew that she was peculiarly susceptible to the influence of mercury. She said "Yes;" that some years since, in Germany, her medical man had prescribed an ointment for a small sore behind the ear, and one slight application of it had produced an exactly similar condition to her present one; that he had ascribed it to the use of a mercurial ointment, and cautioned her never to make use of any preparation containing it. A saline aperient was given, and an effervescing medicine to allay the irritable condition of the stomach.

In the evening, the œdema had much increased, but was principally upon the left side; both eyes were closed; a larger quantity of cream had been used upon the left side.

The next day, all the symptoms were increased, and the chin hung down upon the left side like a great pendulous bag.

The following day, the patient was much better, and in a few days quite well again. In fact, it disappeared as quickly as it came, and there was no loss of strength.

The skin desquamated between the fingers and over the whole scalp. Throughout, the pulse was natural; there was no rise in temperature, no pain, and no prickings of local heat. Had these been present, I should at once have considered the case to be erysipelas, but the whole thing so apparently came as the result of the local application of the cream, as instanced by it also affecting the skin between the clefts of the fingers, presumably because it was more tender in those parts, or else had not been thoroughly washed off, that I could only look upon it as cause and effect, and not as a constitutional affection. I wrote and asked the opinion of Dr. Robert Liveing thereon, which he very kindly gave, as follows:

"I should call the eruption one of acute local dermatitis, produced by unguentum hydrargyri ammoniati (I assume you are right as to its origin). Of course, you are quite right as to its not being erysipelas. It comes much nearer to acute eczema, with much infiltration. I have often seen the eyes closed—in fact, all you describe—from an acute eczema of the head; but in your case—and that is the point of interest—you seem sure of an artificial production from the ointment. I have never met with a case of the kind produced by unguentum hydrargyri ammoniati, which is not usually an irritating application, but I have from a very strong ammonia lotion."

I should add that I found, upon inquiry, that the preparation used did contain about 40 grains of white precipitate to each ounce of the cream.

USE OF PILOCARPINE IN PLEURISY AND PERITONITIS.—An experience of several years induces DeDominicis to believe that great benefit may be obtained, not only in pleurisy and pleuro-pneumonia, but also in peritonitis, from the use of pilocarpine, rapid reabsorption of the exudation, even when copious, taking place. The author gives shortly the history of some of his cases of both chronic and acute peritonitis, in which the administration of jaborandi or pilocarpine (by hypodermic injection) was followed by rapid recovery. When the effect was not obtained, it was due to some special complication of the disease. In the course of these experiments in treatment, the author made careful observations on the mode of action of the drug, from which he arrives at the following conclusions:

1. The systolic force of the heart, except during the stage of sweating, is increased rather than lessened, unless the myocardium is interfered with.
2. The effects on the sudoriparous glands endure after the repeated administration of the drug.
3. Caffein and quinine moderate the action of pilocarpine.—*N. Y. Med. Record.*

NITRITE OF AMYL IN MIGRAINE.—Dr. Bianchi has caused the instantaneous disappearance of this troublesome affection by making the patient inhale three drops of nitrite of amyl placed on a handkerchief. The subject was a woman who suffered from this neurosis at each menstrual epoch. It is well known that nitrite of amyl acts by paralyzing the muscular fibres of the small arteries, and that its action is exerted especially on the cerebral vessels, and that local congestion is the consequence.—*Med. News.*

TREATMENT OF LEUCORRHŒA. — Dr. Fruhauf uses the following method in cases in which the ordinary treatment fails: He commences by disinfecting the vagina by injecting into it a solution containing one to one hundred of carbolic acid and four to one hundred of boracic acid. Then, with a speculum, he introduces three or four oakum tampons, each as large as a walnut and containing grs. iss to iij of iodoform, and each having a string attached for ready removal. These are left *in situ* for two or three days. If there is an ulcer of the cervix, he cauterizes it with a solution containing equal parts of acetic acid and distilled water. Of course, in some cases general treatment must be resorted to. For this Fruhauf prefers the phosphate and lactate of iron.—*Jour. de Med. de Paris.* – *Med. News.*

SURGERY.

ON RECURRENT FIBROMATA OF THE NECK, AND THEIR RELATION TO THE BRANCHIAL ARCHES.—By Henry W. Freeman, F.R.C.S., in the *British Medical Journal.*

I propose to deal shortly with this subject under the following heads:

1. The history of a typical case of recurrent fibromata of the neck;

2. The pathology of these growths;

3. The morphology of the branchial arches, and their probable relation to those fibromas.

G. B., a laborer, was first admitted into the Bath United Hospital on March 1st, 1882, with a lump on the left side of the neck under the lower jaw, of six months' duration. The tumor was hard, rounded, freely movable, and about the size of a hen's egg, deeply situated in the anterior triangle of the neck, posterior to, but on a line with, the body of the hyoid bone and thyroid cartilage, lying on the deep vessels of the neck, and moving up and down during deglutition. It was removed without difficulty, and, after dividing the layers of the deep cervical fascia over a director, it shelled out easily. To the naked eye, the growth looked like a young rapidly developing fibroid. The man, after a sharp attack of quinsy, made a good recovery, and left the hospital a fortnight after operation.

On August 25th, 1883, eighteen months after his discharge, he reapplied for admission, this time for a much larger growth under the jaw of the same side, situate on a higher plane, and involving the cicatrix of the previous tumor. It had been growing for six months, the interval of freedom being only a year. It was now lobulated anteriorly, hard to the feel, moved easily about on the underlying structures, placed obliquely, to, and overlapping the carotid vessels in front, attached sparingly to the body of the lower jaw, and reaching upwards and backwards to the mastoid process of the temporal bone, but not involving the parotid gland in its course. Its longest diameter measured five inches and three quarters, its shortest three inches and a half. It occupied, therefore, the upper portion of both triangles, and the sterno-mastoid muscle was thinned and stretched over it. There were no enlarged cervical glands, no pain or tenderness; and he complained of but little inconvenience, except the weight. No family history bearing on the man's condition could be made out.

The growth was removed under ether. After division of the skin, all the structures were divided carefully over a director. The sterno-mastoid and digastric muscles were expanded over its surface, the external jugular vein was made out, tied, and cut through, and the facial vessels were treated in like manner. By the aid of a blunt dissector and the finger, the growth was slowly separated. It was found adherent somewhere to the body of the lower jaw for about an inch, and a portion of the submaxillary gland being involved was removed. It was bound down everywhere, apparently, by the deep cervical fascia, strongly to the hyoid bone and its cornua below, and to the mastoid process above and behind; but it shelled out in the end, leaving a deep chasm, at the bottom of which could be seen the hyoid arches, the constrictors of the pharynx, and, deeper still, the tip of the styloid process of the temporal bone. The hemorrhage was inconsiderable and chiefly venous. The wound was swabbed with a thirty-grain to the ounce solution of chloride of zinc, plugged, drained with horsehair, and bandaged firmly.

From the nature of the operation, much subsequent cellulitis followed, with superficial emphysema extending over the clavicle of the same side and upper part of the chest. Suppuration became very free, the pus passing down between the two layers of the deep cervical fascia between the first rib and the clavicle; and, fortunately, not entering the thorax, it presented in the first and second intercostal spaces between the skin and muscles. Small and numerous punctures were then made by Mr. Gardiner, the house-surgeon, and frequent syringing with Barff's boroglyceride carried the man to a happy termination. Besides remarking that his temperature never rose over 100°, and that only for two days, there is but little to record; and he left the hospital well, a month after the operation.

To the naked eye, there was a hard fibrous growth, of the size of a man's fist, cutting through like through fibrous tissue until the centre was reached, where it was softer, mucoid, and resembling a myxomatous infiltration. Mr. H. G. Terry, on microscopic examination, reported the tumor to be composed of wavy bundles of young fibrous tissue, with spindle-cells seen on transverse and longitudinal section, the former having the appearance of small round or oval cells, but which, on closer examination, were found in different sizes depending on the spot cut. The soft mucoid centre had a looser arrangement. The first tumor resembled the second, excepting that it had no soft spots. We concluded, therefore, that we had to do with an undoubted specimen of the small spindle-celled sarcoma, or the old recurring fibroid of Paget. This view has since been confirmed by Mr. H. Butlin. There is no room to doubt that the growth was malignant, and will recur again in a short time. The softened mucoid centre was probably altered connected tissue; but at any time it would, I take it, be difficult to determine whether a tumor be sarcoma with mucoid degeneration, or a myxoma with spots of embryonic tissue. The myxoma, however, would show elastic fibres or true adipose cells.

Rokitansky and Billroth would have called this growth a fibro-sarcoma; but Paget has shown that these recurrent fibromata show incomplete development of rudimental or embryomic tissue, with undue preponderance of cell-elements; and points out further, their tendency, to recur *in loco*, not merely in the same tissue or organ, but adjacent to the scar of the first operation-wound (as in this case), yet distinguished from malignant growths by non-recurrence in distant organs. Their tendency, therefore, to recur *in loco*, their excessive cell-growth, and embryonic structural characters, make these growths correspond with Virchow's sarcomata.

Parenthetically, Ziegler remarks that all fibrous basis-substance has a certain innate predisposition to develop cancer, and that arrest of process may transform an osteoblast to develop an enchondroma; that a fibroblast, in arrest, may transform itself into a spindle-cell of sarcoma. This is most interesting.

Morphologically, we find that the head and neck in man are laid down as in all other vertebrates, in segments or visceral arches from his earliest embryonic condition. In the human embryo well developed arches are seen at the end of the fourth week, which have disappeared by the eighth week; in the dog they are well seen in the fourth week and disappear in the sixth; in the chick they are well seen on the fourth day, disappearing on the eighth. Two of these arches are pre-oral and five post-oral—the branchial or gill-arches of Rahtke.

The first post-oral or mandibular arch is formed of connective tissue membrane surrounding Meckel's cartilage, its upper end articulating secondarily with the squamous bone; its primitive connection, as in all the mammalia, being first with the malleus; and this explains how in man the processus gracilis is found lying in the Glasserian fissure, a relic of embryonic evolution. In birds and reptiles this process is known as the quadrate bone, or ramus of the lower jaw. In the second postoral, or anterior hyoid arch, we have in man the lesser cornu, the stylo-hyoid ligament, and the styloid and tympanic processes of the periotic bone, making up this arch.

In the third postoral or posterior arch in man, we have the body of the hyoid bone and its greater cornu composing the arch, this being equivalent to the third branchial arch, which in fish bears gills. The other two arches below abort, after arranging the arterial aortic arches in the neck. The ear develops in connection with the second branchial arch.

Recent morphology and the comparative embryology of the late Professor Balfour have brought to light much that was long contradictory and obscure. Few of us could have believed that the little tympanic malleus constituted, in primitive forms, what is now equivalent to the ramus of the lower jaw; that the little incus, also in the middle ear, is in reality the extreme summit of the hyoid bone in the lower animals; and that, when linked with the still more minute stapes of the middle ear, it forms the columellar bone of reptiles; that the incus in the cod and other fishes forms that huge hyomandibular bone; that the minute stapes, although now claimed for the inner wall of the tympanum, was also secondarily connected with the upper part of the hyoidean brachial arch; and that the familiar stirrup-hole in its center probably carried through the mandibular artery. Obviously, therefore, the auditory ossicles are difficult to interpret in man, without the assistance of embryology.

Again, the hyoidean apparatus is a fragile structure in man; a complex structure with many joints in the dog; huge in the horse, rudimentary in the sheep, inflated and expanded enormously in the howling monkey; connected above with the tongue, posteriorly with the ear, below with the larynx. We cannot fail to be struck with its rudimentary relics in man, when compared with its large and important bearings in the lowest vertebrates.

These arches have other bearings. Stannius (*Vide Jour. Anat. and Phys.*, April 1882; "Cranial Nerves, their Segmental Value" by Professor Milnes Marshall) first pointed out that the development of the segmental and spinal-like cranial nerves, was determined, not by the number of skull vertebræ, but by the visceral arches of the head and neck; and Gegenbauer has gone still further, and starting with the segmental nerves and visceral arches, determined the number of head-segments. Further, Balfour in his work on elasmobranchs has shown that the two halves of the body-cavity extend forward on each side of the neck; and that, on the appearance of the cleft of the visceral arches, each of these halves cuts up into a series of isolated compartments, one in each arch.

Milnes Marshall, quoting Stannius, shows how each visceral arch is supplied by two branches belonging to different cranial nerves—one running along its anterior, one along its posterior border. He points by the glosso-pharyngeal nerve, along its posterior by the vagus; how the remaining branchial arches are supplied by the vagus, each arch by branches from separate stems; how the hyoid arch is supplied in front by the hyoidean branch of the facial, behind by the anterior branch of the glosso-pharyngeal; how the mandibular arch has the mandibular branch of the fifth nerve along its anterior, and the anterior branch of the facial along its posterior border, the latter being identified as the chorda tympani of birds and mammals. Finally, we must bear in mind how, in all vertebrates, the aortic arches of blood-vessels are formed by dividing over these branchial arches in the same manner as the segmental nerves.

I have dwelt at some length on the anatomical relations of these structures, in order to show that the guiding framework of the neck is the three postoral arches, and that the mandibular and hyoidean arches are highly specialised in regard to special functions; but the literature on this subject seems of the scantiest description; Ziegler and Virchow abroad, and Paget and Treves at home, seem to give us all we at present know. Yet there must be some close connection. If not, why do morbid growths occur so commonly in the neighborhood of the lower jaw rather than in connection with the clavicle and first rib? The remains of the three first postoral arches persist, the lower ones aborting entirely, will, I think, explain this.

It has been asked whether types that have been established for physiological tissues will be found to hold good, also, for pathological ones. Virchow says, "Yes;" and adds that every pathological structure has its physiological prototype, and that no
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organ of Rosenmuller (the aborted Wolffian body of the female) date back in their origin to the embryonic period.—*British Medical Journal.*

[illegible] SUGGESTION FOR CHLOROFORM AND ETHER ADMINISTRATION.—To overcome a repugnance to the odor of chloroform in certain patients, Prof. Nussbaum, of Munich, has a few drops of oil of cloves placed on the towel before giving the anæsthetic. The addition of one part to six of cologne to ether makes it much more easy of administration in some cases.

MISCELLANY.

ON THE PRESENCE OF NEEDLES IN THE SUBCUTANEOUS TISSUES—THEIR MIGRATIONS.—In a clinical lecture recently delivered in the Hospital Charite, Dr. Despres has communicated some interesting facts respecting the singular toleration of needles by the subcutaneous tissues, and the migrations of these bodies. He relates the case of a young man, who, with the leg flexed on the thight, falling on the anterior aspect of the knee, violently hit this part of the body against a long darning-needle, which was driven into the joint and had disappeared. The youth continued to walk about as if nothing had happened. Four days after he appeared at the clinic. He then complained of severe pain in the popliteal region. Dr. Despres examined this region and readily found and extracted the needle. Here the needle had traversed the joint, penetrating the popliteal space.

The migration of needles in the tissues is a well attested fact. Otto, of Copenhagen, communicates the case of a young girl, a patient of his, who had swallowed an immense number of needles, and two hundred and ninety-five of these were extracted from different parts of the body. Twenty-two were removed from the left breast.

Villars had a similar patient, a hysterical girl, who habitually swallowed quantities of pins and needles. "The pins advanced more rapidly than the needles. The patient describes the progress of the needles as being more painful, despite its slowness, than that of the pins."

With regard to the extraction of these foreign bodies, Despres advises to "make haste slowly," unless the needle can be actually felt and fixed under the skin.

Cutting down on the supposed site of the needle, and groping for it with the probe and forceps, is apt to be disappointing. If the needle can be clearly felt in the subcutaneous parts, the point can generally be pushed through by a little skillful manipulation, so that a cutting operation will be unnecessary. Such foreign bodies seldom if ever produce abscesses.—*Medical and Surgical Reporter.*

ON THE DIGESTION OF RAW AND OF BOILED MILK.—Dr. N. A. Randolph, at a recent meeting of the Academy of Natural Sciences, of Philadelphia, referred to certain profound changes produced in milk by boiling. In this operation the casein is not coagulated, but there is an evolution of sulphuretted hydrogen (Schreiner), a diminution in the gaseous constituents of the fluid and a change in the amount of ozone present.

The most striking difference between raw and boiled milk lay in the respective responses to rennet, acids and alkalies.

At the body-temperature the firm coagulation of raw milk occurred almost immediately upon the addition of a neutral rennet solution, whereas boiled milk, under the same conditions, did not clot for a far longer period, and the coagula were not firm. On the other hand, dilute or strong acids were tenfold as active upon boiled as upon raw milk. Sometimes after making these experiments Dr. Randolph found that so far as acids and rennet were concerned, similar results had been obtained by Schreiner (*Chem. Centralbl.*, III. Folge, IX. Jahrg.), and he desired to present his observations in these particulars simply as confirmatory of that observer.

Upon the addition of dilute alkalies to boiled milk, the rise of cream was much more rapid and complete than in raw milk under the same conditions.

Artificial digestions showed that milk was more readily digested when raw than when boiled. This was further confirmed by a comparative examination and weighing (in over fifty cases and in which he was aided by Dr. Roussel) of the contents of the stomach after raw and boiled milk had been, in different individuals, undergoing actual gastric digestion. In these cases the residue found in the stomachs of those persons receiving boiled milk was greater than the similar residue found in the stomachs where raw milk had been undergoing digestion for the same length of time.

These results are confirmatory of those of Jessen, who made several observations on one healthy individual. In the studies of Drs. Randolph and Roussel, the sources of errors arising from individual peculiarities were eliminated, inasmuch as the experiments were conducted upon eight healthy men.—*Med. News.*

THE COLLECTION OF REFUSE. — The Vienna authorities have recently adopted a new method of collecting refuse that one would think cannot fail to commend itself to our own governing bodies, although, whether they will find imitators amongst us is quite a different matter. The new Vienna method is based on the assumption that infective matter is not unfrequently mixed with dust, sweepings, and rubbish, and that by transporting such rubbish on open conveyances there is at least a possibility of disease being disseminated along the route of conveyance. The method consists in having all refuse put into barrels provided with tightly-fitting heads. These barrels are then collected, carted away to the proper locality, emptied, disinfected, and then returned. In order that every householder may keep his own, the name and address of the owner are painted on each barrel. The Vienna authorities are making a valuable experiment, and if it proves successful and not too expensive other municipalities will not be long in following so good an example.—*Medical Press.*

WHO GAVE INDIA TO ENGLAND? Why, a member of the medical profession. A noble-minded surgeon in the pristine days of the East India Trading Company was requested by the Great Mogul at Calcutta to prescribe for his daughter. He did, and cured her. The Eastern potentate bowed to the talent of a profession that carries more influence than any other in the East, and asked the Company's surgeon his fee. This noble-minded man requested that his Company should be allowed possession of a piece of ground at Calcutta to trade from. It was granted, and from that request India became our possession. — *Medical Press.*

MR. LAWSON TAIT has accepted an invitation to deliver an address in "Abdominal Surgery" to the Canada Medical Association at Montreal on August 25th.

THE ANTI-SEPTIC METHOD OF DR. DÉCLAT.

Syrup of Nascent Phenic Acid (Syrupus acidi phenici nascenti "Déclat"). $C_{12}H_6O_2$.
A tablespoonful contains nascent phenic acid C.P. gr. ij 1-8. Dose for adults, f ℥ ss. q. 3 hr. In Malaria, for Mucous Membrane, for Bronchitis, Scarlet Fever, as "Anti-epidemic."

Syrup of Sulpho-phenique (Syrupus sulpho-phenicus "Déclat.") $NH_3,C_{12}H_6O_2,HS$.
A tablespoonful contains sulph. hydro. phenatis ammoniæ gr. ij 1-8. Dose for adults, f ℥ss. t. i. d. to f ℥ss. q. 4 hr. Chronic Coughs, Catarrh, Asthma, Rheumatism, Skin Diseases.

Syrup of Ammonia Phenate (Syrupus ammoniæ phenatis "Déclat").—$NH_3,C_{12}H_6O_2$.
A tablespoonful contains ammonia phenate gr. ij 4-8, tr. Thebaic, mss. Dose for adults, f ℥ss. q. 3 hr. Influenza, Croup, all Fevers, Acute Forms of Disease, Paroxysms of Asthma.

Syrup of Iodo-phenique (Syrupus Iodo-phenicus "Déclat").
A tablespoonful contains iod. metal. gr. 1-14; potass. iod. gr. 8-14; acid. phenic. nasc. gr. 8-11. Dose for adults, f. ℥ss. t. i. d. Glandular Enlargements, Tumors, Ulcerations, Scrofula, Syphilitic Cephalgia, Ostealgia.

Phenated Cod-Liver Oil (Oleum morrhuœ phenatum "Déclat").
Specially prepared from fresh cod-livers on the Norwegian coast. A tablespoonful contains pure nascent phenic acid gr. ij 1-16. Dose for adults, f ʒ ii. t. i. d. In Consumption, for all affections of the Lungs, Anti-Septic Tonic.

Glyco-phenique (Glyco-phenica "Déclat"), for external use, and for dispensing Phenic Acid C. P.
A 10 % solution of nascent phenic acid C. P. in an aqueous dilution of glycerine C. P. For Gargle, Burns, Moist Inhalation, Vaginal Injections, Anti-Septic Toilet, etc.

Anti-Septic Syrup for WhoopingCough (Syrupus ammonia-phenicus compositus pro pertussi "Déclat").
A teaspoonful contains ammonia phenate gr. 7-10 Dose, f ʒ iij to f ʒ xxx., according to age. This compound destroys completely and rapidly the particular germ of whooping-cough.

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